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NSTC GREAT LAKES, IL
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REPORT OF PROCEEDINGS REGARDING CLEANUP PROCESS AND RESTORATION
PROGRAM FORT SHERIDAN IL
12/7/1995
STATE OF ILLINOIS

S36245

STATE OF ILLINOIS)
) SS.
COUNTY OF LAKE)

BEFORE THE FORT SHERIDAN
RESTORATION ADVISORY BOARD

**CERTIFIED
COPY**

In the Matter of:)
Fort Sheridan Cleanup)
Process and Restoration)
Program)

REPORT OF PROCEEDINGS had at the hearing
of the above-entitled matter, before the Fort
Sheridan Restoration Advisory Board, at
Building 900, Fort Sheridan, Illinois, on the
7th day of December, A.D. 1995, at the hour of
7:45 o'clock p.m.

PRESENT:

MS. COLLEEN REILLY,
Army Co-Chair
BRAC Coordinator;

MS. JOYCE O'KEEFE,
Community Co-Chair;

MR. PAUL LAKE,
Illinois EPA;

MR. OWEN THOMPSON,
United States EPA;

1 MS. JANE ABRAMOVSKY, Member;

2 MS. CHRIS ADAMSON; Member;

3 MR. LARRY BAKANЕК; Member;

4 MR. PHIL CARRIGAN, Member;

5 MS. CAROL L. DORGE, Member;

6 MS. BERYL FLOM, Member;

7 MR. GREG HAHN, Member;

8 MR. FRED HERLOCKER, Member;

9 MS. JUDY JOHNSTON, Member;

10 MS. BARBARA KRONISH, Member;

11 MR. MICHAEL KUHN; Member; and

12 MS. JONE NOYES; Member.

1 CHAIRMAN O'KEEFE: I think we
2 should call the meeting to order.

3 I do want to thank everyone for coming
4 and wending their way through the fort; and,
5 Colleen, thank you for the directions.

6 MS. REILLY: (Indicating.)

7 CHAIRMAN O'KEEFE: We may decide
8 that this is an even better location. Who
9 knows?

10 Will you call the roll, please.

11 MS. REILLY: Okay. Jane
12 Abramovsky?

13 MEMBER ABRAMOVSKY: Here.

14 MS. REILLY: Chris Adamson?

15 MEMBER ADAMSON: Here.

16 MS. REILLY: Larry Bakanek?

17 MEMBER BAKANEK: Here.

18 MS. REILLY: Stuart Balkin?

19 (No response.)

20 MS. REILLY: Wolfgang Boerner?

21 (No response.)

22 MS. REILLY: Phil Carrigan?

23 MEMBER CARRIGAN: Here.

24 MS. REILLY: Carol Dorge?

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(No response.)

MS. REILLY: Beryl Flom?

MEMBER FLOM: Here.

MS. REILLY: Alan Gaitain?

(No response.)

MS. REILLY: Greg Hahn?

(No response.)

MS. REILLY: Fred Herlocker?

MEMBER HERLOCKER: Here.

MS. REILLY: Judy Johnston?

MEMBER JOHNSTON: Here.

MS. REILLY: Barbara Kronish?

MEMBER KRONISH: Here.

MS. REILLY: Mike Kuhn.

MEMBER KUHN: Here.

MS. REILLY: Frank Kulhanek?

(No response.)

MS. REILLY: Jone Noyes?

MEMBER NOYES: Here.

MS. REILLY: Joyce O'Keefe?

CHAIRMAN O'KEEFE: Here.

MS. REILLY: And I see Carol

Dorge.

MEMBER DORGE: Here.

1 MS. REILLY: She's here.

2 CHAIRMAN O'KEEFE: Thank you very
3 much.

4 Are there any additions or corrections
5 to the minutes of our October 14th meeting?

6 I think, actually, I had a question, and
7 I think it will probably take me a while.

8 Carol, I wondered if you had had a
9 chance to read them, because it seemed to me
10 it had to do with your -- a couple of your
11 comments that I thought were not terribly
12 clear in the minutes, but were clear that
13 evening, and I didn't come up with wording
14 myself, but I just didn't know if you had
15 taken a look at them.

16 MEMBER DORGE: I haven't read them
17 that carefully.

18 CHAIRMAN O'KEEFE: Okay. I wonder
19 if we could just wait to adopt those minutes
20 then and maybe, perhaps, until even the next
21 meeting, and I would have a chance to confer
22 with her to see if there would be a way to
23 clarify those or if there is really a need.

24 MEMBER DORGE: Okay.

1 CHAIRMAN O'KEEFE: Okay.

2 MS. REILLY: Okay.

3 MEMBER DORGE: Thank you.

4 CHAIRMAN O'KEEFE: Thank you.

5 Report from the Outreach Committee,
6 Phil.

7 MEMBER CARRIGAN: Thanks, Joyce.

8 We have two people that have expressed
9 some interest in joining the RAB.

10 Last month I mentioned -- in October, I
11 guess -- that we had received an application
12 from one individual, and they are providing a
13 little additional information, and that comes
14 forward; and then, additionally, we have a
15 person who lives -- I believe an enlisted Navy
16 person who lives in Navy housing on the base,
17 who I have sent an application to. I don't
18 know whether they are here tonight.

19 Okay. But they have been in contact
20 again with Bill, and we will pursue that.
21 That that should be a real addition, and
22 that's about where we stand.

23 One other note. I talked to Colleen
24 earlier this week, and Stuart Balkin had a

1 stroke and was in the hospital, and is now, I
2 understand tonight, at home; and I have a card
3 that I haven't shown to anybody. I hope it's
4 in good taste.

5 Could we sign that and just mail it to
6 Stuart?

7 CHAIRMAN O'KEEFE: Great. We will
8 just pass it around and everyone can sign.
9 Good. Thank you very much.

10 MEMBER FLOM: Joyce, I wonder if I
11 might switch seats with you so that you don't
12 have your back to the audience.

13 CHAIRMAN O'KEEFE: Sure, if you
14 think -- actually, I don't do much after this,
15 but you do, and so we should both do that, I
16 think. That's why we originally decided to
17 sit together, but we can go over there.
18 That's good. That's probably a good
19 suggestion.

20 I think I decided I need to be somewhere
21 where I could kick her or something. I don't
22 know.

23 MS. REILLY: I am.

24 CHAIRMAN O'KEEFE: I would just

1 like to announce that I have received a letter
2 of resignation from Steven Popp, and "I'm very
3 sorry." He says, "This is to inform you of my
4 immediate resignation. The recent start of a
5 new business precludes me from devoting the
6 time and energy to the RAB which it
7 deserves," and he, of course, thanks us for
8 that opportunity to work with us and gives us
9 his best wishes for success.

10 So are there any comments or suggestions
11 for the Public Outreach Committee?

12 (No response.)

13 CHAIRMAN O'KEEFE: Phil, did
14 anyone come forward and offer to serve on the
15 Committee with you and Chris?

16 MEMBER CARRIGAN: Yes. Carol did,
17 last meeting, and we are all set.

18 CHAIRMAN O'KEEFE: Good. Okay.
19 That's great.

20 And so if you have -- if you do have
21 suggestions for potential members, you can
22 call any of those three people, I think, and
23 start that process going.

24 Colleen, your monthly progress report.

1 MS. REILLY: Okay. We let me get
2 my bearings here after being switched around.

3 I think there were a couple of things
4 that I was going to get back to the RAB --
5 well, maybe just one, the big one about the
6 sludge drying beds, which has been a concern
7 of the RAB's for a couple of meetings. So we
8 did a little more research into the location
9 of the sludge drying beds and talked amongst
10 the BCT members about what the priorities
11 would be and if we really felt there was a
12 need that the sludge drying beds would tell us
13 some more information about the base as a
14 whole, and, therefore, warrant sampling ahead
15 of schedule.

16 Well, first let me tell you what we
17 found in terms of the location of sludge
18 drying beds.

19 Actually, I have an aerial photo here,
20 which was enlarged, so it's not so clear; but,
21 basically, it shows that the location of the
22 sludge drying beds are within the current
23 fence line that you see out on the property
24 right now.

1 The area that most people had looked at
2 the sludge drying beds or the area next to
3 that fence line that they think is a sludge
4 drying bed, when you go over there, it was
5 actually originally a ball field and then
6 turned into a skating rink. That's been
7 verified with people who have been working on
8 the post for many, many, many years.

9 And all the aerial photographs, all the
10 ground photographs, all the blueprints from
11 the wastewater treatment plant show the sludge
12 drying beds actually within the fence line.

13 MEMBER FLOM: Where, though?

14 MS. REILLY: You will see it on
15 this photo. It's in here. If you see here,
16 here is the lake.

17 MEMBER DORGE: Do you mean within
18 the landfill area?

19 MS. REILLY: No. There is a fence
20 around -- right now there is a fence that's
21 been up there since the wastewater treatment
22 plant was running, and then, even when it was
23 dismantled, the fence remained. So there is a
24 current fence there. It's kept locked. The

1 only people who have access are the Navy
2 maintenance persons.

3 MEMBER KRONISH: Is this the fence
4 that we stood outside and there is a pond
5 inside?

6 MS. REILLY: No. That's on the
7 north end of the post.

8 MEMBER KRONISH: We were on the
9 south end.

10 MS. REILLY: Right. The sludge
11 drying beds are sort of on the middle -- they
12 are right next to Landfill 7, middle to south
13 end.

14 MEMBER KRONISH: Okay.

15 MEMBER FLOM: So they are in the
16 Navy part of the base?

17 MS. REILLY: Correct.

18 And, actually, the sludge drying beds
19 themselves were made out of very, very thick
20 concrete. These weren't structures that were
21 just in the ground, they are made out of very
22 thick concrete basins, I guess, but they were
23 square, and were completely dismantled when
24 the wastewater treatment plant was taken out

1 of operation when the sanitary sewer system
2 was hooked into the North Shore Sanitary
3 District. This was roughly in about 1978.

4 So I will pass -- you guys don't.

5 Do you need to see it?

6 CHAIRMAN O'KEEFE: I will take
7 one.

8 MEMBER FLOM: So underneath is --
9 I mean, why would there be any sludge under
10 there?

11 MS. REILLY: Well, right now we
12 are not -- I mean, we are not sure. We are
13 going to sample it just to ensure that if
14 anything did get away from the sludge drying
15 bed, the concrete structures themselves, that
16 we have taken care of and made sure there were
17 releases, so --

18 CHAIRMAN O'KEEFE: Pass them the
19 map.

20 MS. REILLY: Obviously, it's
21 already fenced in, and the BCT looks at what
22 the operations would be of a sludge drying --
23 of a wastewater treatment plant, which is,
24 basically, to treat sanitary wastes, and did

1 not feel that there was enough justification
2 or priority to sample it ahead of schedule.
3 It is planned to be studied or sampled in the
4 spring of '96 as part of the remedial
5 investigation on the DOD property.

6 CHAIRMAN O'KEEFE: Are there any
7 questions about that or comments on that?

8 Thanks Colleen.

9 MS. REILLY: Sure.

10 CHAIRMAN O'KEEFE: That was Greg
11 Hahn that just came in, for the record.

12 THE REPORTER: Thank you.

13 MS. REILLY: I will move on to
14 what the BRAC clean-up Team has been working
15 on for roughly the past month.

16 If any of you have been driving around
17 the base at all, I'm not sure if you have, you
18 probably have seen a few open holes, large
19 open holes.

20 I think I mentioned at the last meeting
21 that we found some underground storage tanks,
22 both on the surplus property and the Navy and
23 Army Reserve property, so we are moving ahead
24 with actually pulling -- extricating these

1 tanks, pulling them out of the ground and
2 pulling any associated soil that's been
3 contaminated from the tanks because they
4 leaked.

5 Basically, what we found so far, we
6 suspected, on the surplus property, 15 tanks.
7 We actually found 11. One area -- in several
8 of those areas there was no tank. We thought
9 there may be, but there ended up not being any
10 tanks at all, and one area we couldn't get
11 into because it's in the unexploded ordnance
12 area.

13 But of the 11 ~~t~~anks that we did find --
14 this ranged from gasoline to heating oil,
15 diesel fuel -- they all had releases; that is,
16 all of them leaking when we removed them.
17 There was soil that was affected by either the
18 gasoline or heating oil, whatever was inside
19 the tanks.

20 So it was a pretty massive effort by one
21 of our contractors to pull out all the tanks
22 and then get underway to start cleaning up the
23 soils that had been affected.

24 Unfortunately, we sort of ran out of

1 money that we had to give them, so now we are
2 currently waiting for this year's potful of
3 money, in a sense. We are expecting to get
4 that in January, so we can start up again with
5 cleaning up the sites.

6 So some of the sites we have actually
7 cleaned. We had enough money to go ahead and
8 clean them to the objectives that we were
9 trying to meet; that is, the numbers that we
10 had set, and basically dug as much soil as we
11 could to meet those numbers.

12 The other ones, basically, we'll have to
13 come back and do some more digging once the
14 funding becomes available.

15 MEMBER HAHN: When is the funding
16 expected, Colleen?

17 MS. REILLY: In January.

18 The other thing that -- actually, I was
19 talking about the clean-up objectives, and
20 amongst the BCT we have been trying to come to
21 a consensus on exactly which clean-up
22 objectives we are going to use.

23 Right now we had to go with something to
24 know whether we were going to clean or not, so

1 we went very conservatively and used very
2 conservative numbers with the tanks that I
3 just said we did close out. However, I don't
4 know if we talked to the RAB before, but USEPA
5 recently, in August of this year, withdrew the
6 federal underground storage tank program from
7 Illinois EPA, and that was because,
8 internally, there was -- Paul can probably
9 talk a little bit more about that -- but,
10 basically, there were some regulatory issues
11 that USEPA didn't agree with the Illinois EPA
12 on running the federal program, so it was
13 pulled back; is that correct?

14 MR. LAKE: That's right. They
15 rescinded the authority that we had.

16 MS. REILLY: Right.

17 MR. LAKE: It was based mainly on
18 the problems with our reimbursement fund, not
19 with the technical portions of the new LUST
20 law that had been passed by the legislature.
21 That's 35 Illinois Administrative Code Part
22 732.

23 But, in any event, they have -- the
24 legislature recently gave more money to that

1 fund through a tax, and our agency is trying
2 to negotiate that program back into its
3 authority. So at this time still it's in
4 USEPA's hands and we do reviews at this time.
5 We are contracted with USEPA to do the
6 reviews, and we send them up to them for
7 approval and they send out the letters.

8 So that's how the program is functioning
9 currently.

10 MS. REILLY: Yes. So you may have
11 heard this gasoline tax that's going to be
12 imposed on everyone in the State of Illinois.
13 Well, that's what it's for, it's to fund that
14 program so that they can continue the
15 underground storage tank program.

16 Well, so that's had an effect on Fort
17 Sheridan, as well as all the other underground
18 storage tanks across the state, because when
19 the federal -- the USEPA took the federal
20 program back, essentially, they needed to
21 establish some type of clean-up objectives,
22 since Illinois' clean-up objectives may not
23 have been relevant to USEPA. So right now we
24 are negotiating on exactly which clean-up

1 objectives we can use, and I think that we are
2 pretty close.

3 MR. THOMPSON: The differences
4 with the program here is that, of course, the
5 Army does not use the state clean-up fund,
6 underground storage tank clean-up fund to
7 clean up their tanks. They pay for this
8 themselves, and so that has not been a
9 constraint; but the regulatory constraints
10 still exist.

11 The problem is is that, at the federal
12 level, the procedures haven't been worked out
13 yet. This is the first time the federal
14 government has ever taken a program back at --
15 an underground storage tank program back from
16 a state, so they are trying to figure out how
17 to do it. They are setting up a program from
18 scratch.

19 So what we are trying to do is avoid the
20 situation where we are standing in line behind
21 10,000 gas stations for approval of all these
22 things.

23 Luckily, Paul used to work in the
24 underground storage tank program and we know

1 the people up in RCRA who we have to deal
2 with, and we are trying to, basically, walk
3 things through around all these other
4 administrative obstacles, and I'm pretty sure
5 we are going to be able to work things out.

6 MS. REILLY: Basically, it's an
7 advantage for Fort Sheridan that we have got
8 regulators that are right working with the
9 team us with. The poor gas station owner has
10 to wait in line behind all other poor gas
11 station owners at the front door; so we get to
12 go sort of in the back end and work around and
13 decide on our own our clean-up objectives.

14 CHAIRMAN O'KEEFE: But I don't
15 quite understand.

16 If the issue really was that there was
17 no funding there and now there is funding
18 there, it seems like the USEPA should simply
19 return things to where they were and stop
20 going through all the effort of trying to set
21 up its own program now.

22 MR. THOMPSON: EPA had a number of
23 legislative issues, too, having to do with EPA
24 regulations. They questioned the clean-up

1 authorities as to whether they were as
2 stringent, also; and I think the funding issue
3 precipitated the decision, but they are still
4 in --

5 MR. LAKE: That was the overriding
6 reason.

7 There were several technical items that
8 were outstanding. One of them was the no
9 further action clause that existed in the new
10 LUST law, the new Illinois LUST law, and those
11 difficulties, apparently -- and I haven't read
12 the latest bill that was passed by the
13 legislature -- but those technical issues were
14 a part of that bill, from what I understand,
15 and so they should also be resolved.

16 That's why I mentioned that the state is
17 going to be, in whatever mechanisms are
18 available to it, going to the USEPA and asking
19 for the authority back to join the program.
20 That's the word from inside our agency, and
21 whether or not USEPA concurs that all the
22 problems have been rectified, through that
23 legislation, I don't know. I can't guess.

24 MS. REILLY: Okay. So that's the

1 deal with the underground storage tanks, and I
2 know that Judy had been interested in coming
3 on-site and seeing some field work, but we
4 never are able to really measure that too
5 well, but some underground storage tank work
6 is still going on. They are backfilling,
7 basically, putting dirt back into the holes,
8 so that we don't have these big safety
9 problems with these holes open; but our
10 funding could be another three weeks or so,
11 and so that's going under in a week.

12 I know you were interested in coming on
13 a weekend, and we still -- next week even, not
14 this upcoming weekend, but next weekend for
15 those of you who are interested, we'll be
16 sampling some more monitoring wells.

17 Now, it's not as exciting, perhaps, as
18 putting in the monitoring well or, you know,
19 drilling a soil boring for a test pit, but you
20 still -- at least you might see some field
21 work in action.

22 Also, in January, we will probably have
23 some additional soil sampling; and then once
24 the Department of Defense, the DOD operable

1 unit field sampling takes place in the spring,
2 of course, we will have another round of big
3 field effort. All is not lost if you missed
4 out on this field effort.

5 Let's see. A couple other things that
6 the BCT has been working on.

7 Groundwater classification. I'm not
8 sure how many of you are familiar with what
9 goes on with classifying groundwater, but,
10 basically, groundwater, that's water that's
11 underneath the ground, it's sometimes used for
12 drinking water. That is, you hear some people
13 out in the country have wells, and those wells
14 tap into this groundwater. People at Fort
15 Sheridan, our groundwater is -- we have very,
16 very, very thick clays -- or soils, rather,
17 until you get to groundwater, that is, in a
18 sense, drinkable, and that's what has been
19 shown so far.

20 But what we had to do, what we had
21 wanted to do, that is, the Army, was get sort
22 of a base-wide classification of groundwater.

23 What groundwater does is, it sets your
24 clean-up standards. That is, if you have

1 drinking water underneath your study areas,
2 then your clean-up standards have to be a heck
3 of a lot more stringent, because if people are
4 drinking directly from that water, you want to
5 make sure that you are not going to
6 contaminate that water.

7 If they are not drinking directly from
8 that water, that is, it's not drinking water
9 or it's Class 2 groundwater, then your
10 clean-up standards are a little less
11 stringent.

12 So, essentially, what we wanted to do
13 was establish a classification for the
14 groundwater at Fort Sheridan across the whole
15 base. That just makes it a lot easier to
16 manage, rather than having, you know, one
17 portion over here being maybe being drinking
18 water and one portion over here being, you
19 know, not drinking water.

20 Of course, you have to prove that by the
21 geological conditions that you have got. I
22 mean, you just can't decide -- the Army can't
23 say, "We don't want anyone to use that as
24 drinking water," there are certain

1 characteristics of the geology that have to
2 show, in fact, no one could use this for a
3 sustainable drinking water source.

4 So what we have been working, with the
5 Illinois EPA primarily, because this is their
6 program here, is establishing that at least 49
7 feet below the ground surface across Fort
8 Sheridan we have agreed is what's Class 2
9 groundwater or groundwater that is not used as
10 a drinking water source.

11 As you know, everyone in this area uses
12 Lake Michigan as a drinking water, so their
13 water comes directly from Lake Michigan as
14 opposed to deep down in the earth here.

15 The other situation --

16 MEMBER CARRIGAN: Colleen, just to
17 go back.

18 That sounds -- you know, there's two
19 kinds of thoughts, I guess, I can imagine.
20 One is pragmatic: "Nobody uses the water, so
21 don't worry about it," not disregard it, but
22 the potable water aspect didn't really apply.

23 Just what you said, everybody along this
24 part of Lake Michigan, I think, draws water

1 from the lake.

2 But is this a matter of the standards
3 for the water: Do they meet potable water
4 standards?

5 MS. REILLY: Yes.

6 MEMBER CARRIGAN: Then you just
7 drop the clean-up quality down to this Class
8 2?

9 MS. REILLY: Well, yes. They do
10 set the standards, not only for the water, but
11 also for the soils that you have; so the soils
12 that may impact the water, that sets the
13 standard for what you have to meet.

14 MEMBER CARRIGAN: But it sounded
15 like the water could be -- could exceed the
16 standard. In essence, the water may be
17 potable, but when one looks at nobody drilling
18 hundred foot wells to get water in this area,
19 then this Class 2 standard may, in fact, be
20 very adequate?

21 MS. REILLY: I guess I am not sure
22 I understand.

23 MR. LAKE: I don't think that's
24 right.

1 If it's a potentially potable water
2 source, then the more stringent objectives
3 would apply. It has more to do with the
4 physical characteristics of the aquifer.

5 MEMBER CARRIGAN: Okay. Even
6 though nobody may, in fact --

7 MR. LAKE: We are saying here at
8 Fort Sheridan it's not a potable supply.
9 There is not enough water coming out of the
10 aquifer for people to use it. It's not a
11 useable source.

12 MR. THOMPSON: You would have no
13 possibility to use it.

14 MS. REILLY: You have to prove
15 that what you have here is actually not a
16 potable drinking water source.

17 MEMBER CARRIGAN: It's not
18 necessary the quality, but quantity?

19 MR. LAKE: That's one of the
20 factors, correct.

21 MEMBER CARRIGAN: I'm with you.

22 MEMBER ADAMSON: Sparkling Spring
23 sells water all over the Chicago area, bottled
24 water, and their wells are in this vicinity,

1 Highland Park, Lake Forest, whatever. I don't
2 know how far they drill; but how would Fort
3 Sheridan's water affect their supply?

4 MR. LAKE: Well, we might need to
5 talk to Craig about that. I'm not sure.
6 Craig is smiling back there.

7 MEMBER ADAMSON: When you say
8 nobody in this area uses well water, wrong.
9 Somebody is bottling water from somewhere.

10 MR. LAKE: Nobody that we know of
11 is using the water -- that is, Class 2
12 groundwater we are talking about, the water
13 down to 49 feet.

14 MEMBER ADAMSON: Okay.

15 MR. LAKE: They may be using a
16 deeper aquifer source, which this groundwater
17 may or may not be hydraulically connected to,
18 and I don't know the answer, but I don't
19 believe that would be -- at least in a
20 significant amount, that would affect it.

21 Craig is a geologist back there for ESE,
22 and he's been studying the site a lot longer
23 than I have, but he may know the depth to the
24 Class 1, from what depth those well may be

1 taking water.

2 MR. CAMPBELL: I really have no
3 knowledge of Sparkling Spring's wells or
4 anything like that. I do know that available
5 information suggested there is about 400 feet
6 of clay till underlying Fort Sheridan, down to
7 the bedrock, which would be the first potable
8 water source of any, you know, magnitude.

9 So I would assume, if they are actually
10 using wells, that they are drawing from the
11 bedrock aquifer, but I don't know that for a
12 fact, it's just an assumption.

13 MEMBER ADAMSON: Is this something
14 that somebody should question?

15 MR. CAMPBELL: Well, you have.

16 MS. REILLY: 400 feet down.

17 MEMBER FLOM: Somebody should call
18 Sparkling Springs.

19 MEMBER CARRIGAN: If they are
20 selling this product, aren't they required to
21 meet standards?

22 MS. REILLY: I guess we should
23 probably clarify.

24 If they -- if Sparkling Spring is

1 actually producing water as a potable drinking
2 water source from this area, and they are
3 going down to that actual aquifer that can
4 sustain that, the way that it's set up, is to
5 protect -- the way that the Illinois
6 regulations are set up is it protects potable
7 drinking water sources. That was the whole
8 design of the regulations.

9 So, essentially, you have to prove to
10 them that what you have is not a potable
11 drinking water source; that it's not
12 sustainable; you won't get so much, so much
13 gallons per day, which means, you know, why
14 would anybody bother to drill into something
15 that would die out of water essentially the
16 next day. That -- what are some of the other
17 criteria, that the soils around it --

18 MR. LAKE: Hydraulic conductivity.

19 MS. REILLY: Well, that all has to
20 do with the sustainability --

21 MR. LAKE: That's true.

22 MS. REILLY: -- of the water. So
23 there are built-in safety factors here into
24 the regulations to make sure that you are

1 protecting the drinking water sources there.

2 MEMBER FLOM: Okay. But the
3 environmental department of the health
4 department says that the bottled water is not
5 regulated.

6 MS. REILLY: I'm not sure I --

7 MEMBER KUHN: It's regulated.

8 MEMBER ADAMSON: It's not as
9 stringent as the pump water.

10 MEMBER KUHN: The monitoring
11 requirements are not as stringent as
12 monitoring public water supplies, but it is
13 regulated.

14 MEMBER FLOM: I once had a
15 discussion, and they said it was better not to
16 use bottled water for babies, for instance,
17 because you didn't know.

18 MR. CAMPBELL: Colleen, can I?

19 MS. REILLY: Please do.

20 MR. CAMPBELL: We are going to be
21 required -- if there is any indication that
22 any of the activities at the Fort have
23 affected the groundwater, we are going to be
24 required to define, essentially, the vertical

1 and horizontal extent of that effect to
2 groundwater, and if it comes in contact with
3 anything that could potentially be used as a
4 drinking water supply, then we would be
5 required to adhere to the Class 1 standards.
6 This would be the more stringent standards.

7 The only way we would be able to apply
8 the class -- the way I understand this, the
9 only way we would be able to apply the Class 2
10 standards is if we can demonstrate that there
11 is nothing that appears to be a potential
12 viable source of drinking water.

13 MS. REILLY: If there are any
14 other questions, because this really is going
15 to set the clean-up standards at Fort
16 Sheridan, so that I guess I want to make sure
17 that --

18 CHAIRMAN O'KEEFE: Two questions
19 here.

20 MEMBER KRONISH: Craig, do you
21 know, is that the table that -- the water
22 table is the same on the fort as it is below
23 the ridge? Below the fort, you know, as the
24 land slopes down to west of the highway, is

1 the table -- is the water table the same level
2 or does it also slope down?

3 MR. CAMPBELL: In terms of
4 elevation?

5 MEMBER KRONISH: Yes. It is the
6 same water table, basically, I am asking.

7 MR. CAMPBELL: Well, this gets a
8 little complicated.

9 The definition of the water table, okay,
10 I just want to make sure that you are
11 talking about the same thing.

12 Water table is defined as the level to
13 which water will rise in an open hole. Okay.
14 So if I drill a hole into the ground and I
15 wait for it to fill up with water, the level
16 to which that water will rise is the
17 potentiometric surface, and if there is an
18 unconfined surface, then that's defined as the
19 water table.

20 That is going to be affected by numerous
21 things. The water table generally is -- or
22 the potentiometric surface generally is a
23 subdued image of the topography. So if you
24 have a hill, the water table seems to be a

1 little higher under the hill or lower
2 elsewhere. And if -- I don't know, really. I
3 mean, I have driven from here to the highway
4 and, of course, there is a little ridge and
5 then it kind of slopes down, so I'm going to
6 guess that, elevationally, the water table is
7 lower in that -- in that area.

8 But the Great Lakes here are the
9 regional groundwater sink, meaning that almost
10 all the groundwater -- well, all of the
11 groundwater in this area discharges eventually
12 to the Great Lakes. So it's a pretty safe
13 bet, other than small, fairly localized
14 disturbances in that water table, such as
15 drainage ditches and stuff, that eventually
16 all the groundwater within, I mean, literally,
17 tens of miles of the Great Lakes, hundreds and
18 hundreds of miles in some cases, discharges to
19 Lake Michigan.

20 So the slope, as I said -- except for
21 small localized variations -- the slope of the
22 water table would be towards Lake Michigan.

23 Does that address your question?

24 MEMBER KRONISH: Well, in that

1 case, what we might -- what I might think is
2 that rather than Lake Michigan water -- or
3 Fort Sheridan water, rather, contaminating any
4 other water table, it would be the reverse.
5 Other water tables further away would flow
6 through Fort Sheridan.

7 MR. CAMPBELL: That's a correct
8 inference; and since Fort Sheridan is closest
9 to the lake, it is, by definition, down
10 gradient of these other sources up higher, and
11 it is -- and that is certainly a possibility.

12 We haven't seen any evidence of that,
13 but have wells in some background areas up
14 gradient, and at this point we don't have any
15 evidence to that. We are still waiting for
16 some analytical data.

17 But the fact is is that, in these clay
18 soils, that groundwater flow velocities are on
19 the orders of centimeters per millennia. I
20 mean, really, really slow, so it just -- even
21 if you do have a release or you contaminate
22 some groundwater, it just doesn't go anywhere.
23 I mean, you never really develop large-scale
24 groundwater contamination problems in a

1 geologic setting like this --

2 MEMBER KRONISH: Okay.

3 MR. CAMPBELL: -- because the
4 geology itself prevents that from happening.

5 MEMBER DORGE: I have a couple of
6 questions. One is just the report on this
7 that we can look at.

8 MS. REILLY: Bill, is Bill here?
9 I think it's in the information repositories,
10 and if it's not, I'll make sure it is.

11 MEMBER DORGE: How is the 49-foot
12 depth arrived at?

13 MS. REILLY: That was based on
14 geological information that we do have from
15 all the borings that have been drilled, as
16 part of all the studies, all the monitoring
17 wells that have been installed, as part of all
18 the studies that have been done, so that was a
19 pretty --

20 MEMBER DORGE: What is it? What
21 does it mean?

22 MS. REILLY: That was just an
23 arbitrary depth based on the information that
24 we do have, based on the geology underneath

1 Fort Sheridan. That is the designation of
2 Class 2 groundwater. It could be deeper, but
3 we don't have sufficient representative
4 information of the geology under Fort Sheridan
5 to say confidently that it does go any deeper.

6 In fact, some new studies that we are
7 going to be evaluating on, say, the Department
8 of Defense property, if it turns up that when
9 we install one of those groundwater monitoring
10 wells, we encounter something shallower than
11 49 feet that would be considered a potable
12 groundwater source, that the standard would
13 change for that area.

14 CHAIRMAN O'KEEFE: Any other
15 questions?

16 (No response.)

17 MS. REILLY: Okay.

18 MEMBER DORGE: I'm just -- I would
19 like to look at this report, and I think this
20 group needs to, you know, have an opportunity
21 to look at the report and comment on this
22 further, because it sounds like you are making
23 a very important determination that could
24 affect not just the underground tank cleanups,

1 but possibly the landfill cleanups, although I
2 understand the landfill waste goes deeper than
3 49 feet.

4 But it concerns me and I think we need
5 to think more about it.

6 CHAIRMAN O'KEEFE: How big is this
7 report? Is this something you could send out
8 to everyone?

9 MS. REILLY: No.

10 MEMBER CARRIGAN: Is there an
11 executive summary that would be helpful?

12 MS. REILLY: Yes.

13 MEMBER CARRIGAN: Maybe that would
14 suffice.

15 MS. REILLY: It's got all the
16 borings, every single boring log from every
17 boring that was ever drilled on Fort Sheridan.

18 MEMBER KRONISH: It's boring.

19 MS. REILLY: Yes. It's not the
20 type of report that everyone would want.

21 CHAIRMAN O'KEEFE: Why don't you
22 send the executive summary, then; and, Carol,
23 you can either see it at the repository or
24 perhaps ask Colleen, after you have looked at

1 the summary, if she would make one available
2 just for you and for anybody else who would
3 like to go, you know, who doesn't have a
4 chance to get to the repository.

5 MEMBER DORGE: Okay.

6 Craig, did I understand you to say that
7 the wells in the area are all deeper than 400
8 feet? Because I -- I'm sure I have heard of
9 wells, maybe not right around here, but within
10 a few miles, that are shallower than that.

11 MR. CAMPBELL: I was
12 specifically referencing the formation that
13 underlies Fort Sheridan.

14 There are some shallower formations to
15 the east of us, that have wells completed in
16 the -- excuse me -- west.

17 MS. MC KINLEY: He's thinking of
18 Lake Huron.

19 MEMBER CARRIGAN: Some very
20 shallow ones.

21 MR. CAMPBELL: To the west, that
22 are completed in a shallower formation, which
23 then -- that aren't 400 feet below ground.

24 MEMBER FLOM: Yes, definitely.

1 MEMBER DORGE: Is a well survey
2 part of this report?

3 MR. CAMPBELL: Yes.

4 MEMBER FLOM: I mean, I guess I
5 would like somebody to call Sparkling Springs
6 and see how deep their wells are.

7 MR. LAKE: We can probably find
8 out that information.

9 MS. REILLY: But, ultimately, how
10 much does it have an effect, then Sparkling
11 Spring has --

12 MEMBER FLOM: We don't know where
13 their wells are.

14 MR. LAKE: We don't. We need to
15 know how deep they are, and if they are as
16 deep as Craig says, and the type of geological
17 materials that they found at Fort Sheridan
18 continue on down, it's highly unlikely that
19 the amount of contamination that we have seen
20 so far would be able to migrate downwards to
21 the depth that Craig is describing for the
22 lower aquifer.

23 MEMBER FLOM: But an awful lot of
24 people use that water.

1 MR. LAKE: But the IEPA has
2 reviewed the document and we have agreed that
3 the Class 2 is acceptable down to 49 feet.

4 Beneath 49 feet, we don't feel that
5 there has been enough information gathered for
6 us to make a judgment call and, therefore, we
7 have called everything -- except for Landfill
8 7 -- well, our position is that it's Class 1
9 until demonstrated otherwise, so we consider
10 that unidentified territory and, therefore, we
11 assume it's a Class 1 groundwater situation,
12 if we encounter a groundwater source there.

13 MS. REILLY: I might also state
14 that this is something that's explicitly
15 stated in Illinois regulations, that if it
16 meets these criteria, then it is Class 2
17 groundwater; so this isn't a judgment call, I
18 guess --

19 MR. LAKE: Right.

20 MS. REILLY: -- this is statutory.

21 MR. LAKE: It was the IEPA's
22 judgment that they had demonstrated
23 sufficiently that it was Class 2 down to 49
24 feet, so they met their regulatory obligation

1 to demonstrate that to us, and we concurred.

2 MS. REILLY: Yes.

3 MEMBER KRONISH: I have a
4 question, just out of cariosity. It has
5 nothing to do with the drinking water,
6 basically.

7 Under 49 feet there is not bedrock, is
8 there?

9 MR. LAKE: No.

10 MEMBER KRONISH: So is there
11 bedrock under 400 feet?

12 MR. CAMPBELL: Yes.

13 MEMBER KRONISH: Okay. That's
14 where the bedrock stops. Above that is all
15 clay of one kind or another?

16 MR. CAMPBELL: Well, it is all
17 permeable soil.

18 We haven't drilled down that far, that's
19 based on reports that were prepared by the
20 Illinois Geological Survey and academic
21 determinations at different universities
22 around here, which have done research in that
23 area that indicate that that's how deep or how
24 thick the unconsolidated sediments are.

1 I have no firsthand knowledge that they
2 are that deep.

3 MEMBER KRONISH: Okay. I was just
4 curious.

5 MR. CAMPBELL: Colleén, I would
6 just like to say, as part of this groundwater
7 classification document, we did a records
8 search of all the -- well, when you install a
9 water well in Illinois, you are required to
10 submit a log of the well, and they are filed
11 and recorded, and we did a records search of
12 IEPA's database and got all the water well
13 logs within several miles of the Fort, and
14 then they are plotted on a map and they were
15 investigated to find out if they were still
16 operable. Most of them had been plugged and
17 abandoned. There are a couple that are still
18 around, but not within any kind of -- any
19 proximity to the fort.

20 But, I mean, I personally would not have
21 a problem calling Sparkling Spring and finding
22 out exactly where they get their water from.
23 I think that's -- I mean, I am kind of curious
24 about that myself from a hydrogeologic

1 standpoint. I agree with you that I'm not
2 sure that -- the likelihood of anything from
3 the fort impacting their water supply is
4 minuscule, in my mind; but, I mean, I think
5 that's a reasonable question.

6 CHAIRMAN O'KEEFE: Good. Thank
7 you. We will look forward to your answer.

8 Colleen, do you have more to report?

9 MS. REILLY: Yes. Let me just jot
10 that down here.

11 Let's move right through this.

12 Let's see. The field work that I just
13 described that has been going on, I think we
14 mentioned before that we have field screening,
15 that is, basically, it's a meter-type device
16 that is able to detect whether or not there
17 are specific vapors that may be coming out of
18 a study area.

19 Now, of course, that's not going to
20 indicate whether or not there are metals or
21 anything in the study areas, but it's at least
22 a broad, general indicator of whether you have
23 a site that's been affected or not or
24 contaminated or not.

1 Basically, what we have had so far in
2 all of the field work that's been done is no
3 readings on that except for inside one
4 building, which is the hangar, Building 117.
5 There are some sumps in the bottom of the
6 hangar. The hangar, obviously, had aircraft
7 maintenance, and so I'm not surprised, I
8 guess, that we are finding some things were
9 put into the sump, such thing as solvents or
10 something.

11 But with all the sampling -- which has
12 been, what five, weeks now?

13 MR. CAMPBELL: We are going to
14 start our fourth -- well, yes, fourth session.

15 MS. REILLY: Roughly about five
16 weeks of sampling, and they have not had any
17 field screening indicators of contamination.
18 So I think that's a pretty good sign.

19 We are still waiting for the laboratory
20 analysis to come back, which will give us a,
21 you know, confirmed indication of whether we
22 have contamination or not at these sites on
23 the surplus property.

24 MEMBER CARRIGAN: What you are

1 looking for are heavy metals or cleaning
2 solvents?

3 MS. REILLY: Both. But the field
4 screening indicators are probably only to
5 detect the organic solvents. The metals
6 aren't going to vaporize or anything like
7 that.

8 MEMBER CARRIGAN: Right.

9 MS. REILLY: We did do some
10 videotaping in the landfill, so I am hoping at
11 the next meeting, as we know about the test
12 pits, we are going to show you some footage
13 from there and some of slides from the
14 sampling activities. As I said, most of you
15 weren't able to come out during the sampling
16 efforts, so I thought you might be interested
17 in seeing what we found out there, at least
18 visually. We won't have the lab results back
19 yet, but the visual indicators.

20 We also did some more radiological
21 sampling at Landfill 7. That was just done
22 last week. We sampled groundwater
23 downgradient from Landfill 7, as well as the
24 leachate that was sampled directly out of the

1 gas vents. They do have water in them, so we
2 sampled that for radiological materials.

3 Let's see. We are working on the
4 focused feasibility study for Landfill 7.
5 That has actually just been delivered to the
6 regulatory agencies in draft. It will be
7 available for your review when the draft final
8 comes out, which I anticipate in February; and
9 that, basically, evaluates all the different
10 alternatives for closure of Landfill 7.

11 I think this next -- since we are
12 running out of time and I would like to move
13 onto the actual study of the landfill issues,
14 a couple other things just regarding the data
15 validation. I mentioned that last time.

16 As you know, all the 1992 data that was
17 gathered by the Army, we validated; that is,
18 had another laboratory basically evaluate and
19 make sure that data was good or not, and we
20 had a meeting with the -- among the BCT
21 members, and determined that we would resample
22 roughly 10 percent. It's actually less than
23 10 percent, but 10 percent of certain types of
24 samples; that is, 10 percent of all metals, 10

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1 percent of the pesticides we are going to
2 resample, just to ensure that those data are
3 valid, good enough to use.

4 If that 10 percent comes back that yes,
5 in fact, that all the data is fine, then,
6 essentially, we can use all the previous data
7 set, which is a plus for the Army, because
8 that would be a significant amount of
9 additional funds needed to be spent and may
10 present a delay in some of the clean-up effort
11 if we had to have a major resampling effort.

12 So that's good news. Hopefully, the
13 results will turn out just as good as the
14 validation did.

15 The BRAC clean-up plan, Version 2, I
16 think we have talked about that before. You
17 had a meeting about it, a presentation about
18 it several months ago.

19 In any case, that Version 2 is now in
20 the information repositories; but the
21 information is changing so rapidly here, that
22 the minute we print it in the BRAC clean-up
23 plan, you know, next week we have had an
24 update already to it, whether it be because,

1 you know, the JPC has decided something
2 different or some piece of legislation has
3 gone through or we have, you know, less study
4 areas than we thought we did, or we had the
5 sampling results and we didn't when we printed
6 it; but you have to take that into
7 consideration when you read it that some
8 material is outdated even though the document
9 is a month old.

10 So that does contain a large map which
11 does indicate what's the status of all the
12 different study areas. I will let you go
13 peruse through that thing. We do have copies
14 for you, if you are interested. I don't know
15 if you want to take a show of hands if people
16 are interested in getting a copy of the
17 document.

18 If anyone is interested, it's got a
19 large map which indicates all study areas, and
20 then it also discusses the compliance issues,
21 all the restoration study areas that we are
22 talking about, the schedules for clean-up, the
23 money issues, how much we spent so far, how
24 much we are planning to spend, different

1 issues that the BRAC clean-up team have been
2 involved in over the past few years, that type
3 of thing.

4 MEMBER KRONISH: Colleen, do you
5 think this might be a good subject for an open
6 -- well, everybody is public; but for a
7 workshop that we might -- because it sounds
8 like it's sort of a summation of everything
9 that's been going on at the fort, and maybe --

10 MS. REILLY: It is; but I think
11 that you probably get more out of the specific
12 issues we are talking about than the big
13 overviews. You know, I mean, I think, when we
14 get into the dealings of groundwater
15 classification, for instance, when we went
16 over the BRAC clean-up plan, it would be just
17 breeze through, and you may not get a sense of
18 it.

19 Now, if you look at the BRAC clean-up
20 plan and think, for instance, that there is a
21 particular topic when you take a look at it
22 that you want to bring up in front of the RAB,
23 then by all means ask or just ask the status
24 of it now, you know, where are we at with

1 asbestos, where are we at with lead-based
2 paint because I am not sure, going through the
3 document, because I said some of the issues
4 are outdated.

5 CHAIRMAN O'KEEFE: I was going to
6 suggest it did sound like a good summary
7 document, and maybe it's the kind of a
8 document that everyone should have, because
9 it's almost a reference to it, it seems to me.

10 MEMBER FLOM: Maybe just the map.

11 MEMBER KRONISH: The map, yes, as
12 much commentary as possible.

13 MS. REILLY: It's actually not
14 that big, it's less than an inch.

15 CHAIRMAN O'KEEFE: Might as well
16 take it. She already has.

17 MS. REILLY: That's quick.

18 Let's focus on the agenda landfill
19 issue.

20 CHAIRMAN O'KEEFE: Landfill 7, air
21 sampling and risk assessment workshop.

22 MS. REILLY: As now we have a
23 little bit set up, and I am hoping to have
24 more interaction that way so people don't get

1 bored and go to sleep, because we have two
2 different studies, and I think this was the
3 best way to inform you of two different
4 studies that happened or took place on the
5 data that was collected, and allow you to
6 interact on a one-on-one basis with the expert
7 that actually put these studies together.

8 So what I thought we would do is break
9 up to the different poster sessions that are
10 there. One of the poster sessions was put
11 together by -- well, put together actually for
12 the study that was done by the U.S. Army
13 Center for Health Promotion and Preventive
14 Medicine, is the Army's expert in the agency
15 in the risk assessments that are done.

16 The other study that was done was done
17 by USEPA and their risk assessors and their
18 air modellers. They were both done using the
19 same model set.

20 We -- the U.S. Army Center For Health
21 Promotion and Preventative Medicine, they came
22 out in early August and did some sampling at
23 the gas vents at Landfill 7, as well as
24 sampling outside of the fence, right at the

1 fence line of Landfill 7.

2 USEPA took that data -- actually, they
3 took the data from the gas vent, combined that
4 with some regional meteorological data, and
5 plugged that area into a computer air model in
6 order to predict what the concentration
7 gradients of the gases would be as you move
8 away from the source or as you move away from
9 the vents; whereas, USACHPPM took the data
10 that they detected at the perimeter, actually,
11 and plugged that into a risk assessment.

12 USEPA took the predicted concentrations
13 and plugged that into a risk assessment. So
14 we have two different viewpoints.

15 You may ask, "Why did they even sample
16 this at all?" Well, the reason that we did
17 this study was to evaluate if there were
18 potential health risks to the residents, the
19 current residents that live around the
20 landfill, so they are, really, our target
21 audience.

22 We have presented this to the residents,
23 actually, initially a few weeks ago and then
24 recently a few days ago, just to inform them

1 of what was going on. This was done for them,
2 to ensure that the landfill gases were not
3 posing an immediate health risk to them, and
4 it's a little different than the risk
5 assessments that you will be dealing with in
6 the future; but I think it's a good exercise,
7 a real-life exercise for you to go through,
8 because when we do the risk assessments in the
9 future for the surplus operable unit and DOD
10 operable unit, the risk assessments would be
11 much more complex, much more involved, many
12 more study areas and, essentially, you are
13 going to be evaluating not necessarily health
14 risks per se, but whether or not the site
15 needs to undergo remediation.

16 There's two different goals. This study
17 was just merely, "Is there a health risk to
18 the residents that live there?" Not "Should we
19 remediate Landfill 7?" So there is a little
20 different goal; but, nonetheless, it goes to
21 the same process in terms of calculating risk,
22 and so I think it's a useful tool for you to
23 see how risk assessments are conducted.

24 I know that particularly the community

1 has an interest in Landfill 7; therefore, I
2 thought it was, you know, very pertinent to
3 what we all discuss here.

4 In addition, the data that was collected
5 will be used, at least in a qualitative sense,
6 when we do evaluate the different clean-up
7 alternatives for Landfill 7. So it is useful
8 information for what we are going to do in
9 deciding how to clean up Landfill 7,
10 essentially.

11 CHAIRMAN O'KEEFE: So how is this
12 going to work? I certainly envision this
13 being -- we actually talked about two
14 different rooms, but at least two different
15 ends of rooms, because I actually did see some
16 sort of a presentation.

17 Is that going to work with everybody?

18 MS. REILLY: Well, what I thought
19 is it could be sort of an informal workshop
20 that you could go -- we are going to have the
21 experts standing by their representative
22 posters, and then you can discuss with them,
23 you can read the posters. There are going to
24 be questions, I'm sure.

1 Essentially, it runs through how the
2 risk assessment is done, what does this number
3 mean? What does it mean when you come up with
4 such-and-such type of risk? What is an
5 acceptable risk? Those type of questions may
6 come up, and how you calculate those risks and
7 what you plug into a risk assessment in order
8 to determine, you know, is this a reasonable
9 situation, is it not a reasonable situation?
10 How do meteorological conditions affect,
11 particularly, gas emissions, because,
12 certainly, that has a major impact on how
13 gases are dispersed. There's all sorts of
14 issues. That's why I thought it may be best
15 in a workshop setting rather than a formal
16 presentation.

17 CHAIRMAN O'KEEFE: Just trying to
18 figure it out.

19 So we are supposed to go over there?

20 MEMBER FLOM: There isn't really
21 room.

22 CHAIRMAN O'KEEFE: There is not
23 really much room. And then we are just
24 supposed to go read the poster boards,

1 informally ask the consultants who are
2 standing next to the boards any questions we
3 have?

4 MS. REILLY: Yes; and then --

5 CHAIRMAN O'KEEFE: At --

6 MS. REILLY: Then, also, if you do
7 have questions that you want to bring forth or
8 for the record, we have in front of you a
9 little question and comment sheet. Just write
10 it down; and then, when we come back, if you
11 don't want to ask, you can give it to me and
12 I'll anonymously ask the question or you can
13 just, you know, ask yourself, just so you
14 remember it, if you felt it was important
15 enough to bring forward to the group.

16 MEMBER FLOM: Is there a document
17 for this, too?

18 MS. REILLY: Yes, from a document
19 for what USACHPPM did.

20 Are you going to put together a document
21 for your report?

22 MR. THOMPSON: Not a formal
23 document. We just brought a handout.

24 CHAIRMAN O'KEEFE: Handouts are

1 good.

2 MS. REILLY: But there is a formal
3 report.

4 Particularly, the main issue at hand, if
5 I recall 7 right now, is a chemical called
6 vinyl chloride, and that's particularly what
7 USEPA focused on when they evaluated -- that's
8 the most and harmful chemical that's been
9 found at Landfill 7, and it has been found in
10 the gas vents. We did not detect it at the
11 perimeter.

12 However, EPA predicted different
13 concentration gradients, and so they predicted
14 that, even though it disperses once it leaves
15 the gas vents, that it still could be detected
16 or still is found outside the landfill
17 perimeter.

18 So that's what we called the primary
19 risk driver, which is why USEPA's study
20 focuses on vinyl chloride, and I think they
21 have some handouts on the effect of vinyl
22 chloride, et cetera. So I will --

23 CHAIRMAN O'KEEFE: Okay. So we
24 should stand up?

1 MS. REILLY: -- allow you to go.

2 MEMBER DORGE: Colleen, I mean, I
3 have heard a couple of people over here on my
4 side. I would like a little presentation
5 before, if it's possible, five or ten minutes,
6 just summarizing what was done and what was
7 found before we --

8 MS. REILLY: Sure.

9 CHAIRMAN O'KEEFE: You want a
10 summary presentation? Wasn't that what I
11 heard you say?

12 MEMBER DORGE: Yes.

13 CHAIRMAN O'KEEFE: Keith, would
14 you be willing to answer one or two questions?
15 Is that putting you on the spot?

16 MR. THOMPSON: What do you think,
17 Mark?

18 MR. JOHNSON: A five-minute
19 presentation.

20 MR. THOMPSON: Five minutes.

21 MS. REILLY: Just an overview of
22 what was --

23 MR. JOHNSON: We could do that.

24 MS. REILLY: Okay.

1 MR. HODDINOTT: Who do you want to
2 go first?

3 MS. REILLY: You go ahead, since
4 you collected data, it may be easier.

5 MR. HODDINOTT: As Colleen has
6 probably noted to you, I am not prepared to
7 make a talk today; however, I will give you
8 the five-cent tour.

9 Landfill 7 -- let's see. If you look at
10 Lake Michigan over here, Patton Road, the
11 landfill encompasses an area like this. There
12 is a blank area in the middle. I believe it's
13 Chatfield Court to the south site.

14 MS. REILLY: North side.

15 CHAIRMAN O'KEEFE: This would be
16 north down here. North is downward. We can
17 address that.

18 MR. THOMPSON: Bill, why don't you
19 bring that up.

20 MR. HOPKINS: (Indicating.)

21 MR. HODDINOTT: Okay.

22 Initially, what our purpose was was that
23 it was reported that there was an odor
24 problem, and Fort Sheridan and the Navy wanted

1 to know if their residents on both sides of
2 the landfill were being affected by any
3 chemical that was coming out the vents and
4 could pose a threat getting into the houses.

5 As you know, there is a fence around
6 Landfill 7. What we initially wanted to look
7 at was the vents to find out what kinds of
8 gases were coming out of the landfill, and the
9 perimeter, as a measure of the closest area
10 that residents would get to the landfill,
11 because the closer you get to the source, the
12 stronger the gases will be.

13 Okay. What we found was a very nice
14 pattern of gases around the perimeter.
15 However, the gases that we found did not
16 closely match the gases that were coming out
17 of the vents.

18 MS. REILLY: As other sources,
19 potentially, that --

20 CHAIRMAN O'KEEFE: A nice pattern
21 around the perimeter, I think were the exact
22 words.

23 MR. HODDINOTT: The vents are
24 essentially down the middle of the landfill.

1 MEMBER FLOM: So how do you
2 measure the gas around the perimeter?

3 MR. HODDINOTT: Okay. How we
4 measure the gas was, we had a trap tube and we
5 attached the pump onto it, explore the vent.
6 We take that trap tube and put it right down
7 inside the vent, let it run for four hours,
8 take it back to a laboratory, which we had
9 on-site, and have that analyzed.

10 MS. REILLY: Pulls the air through
11 it, and then that trap absorbs any of
12 chemicals that were in that air.

13 MEMBER FLOM: So how do you do the
14 perimeter?

15 MR. HODDINOTT: For the perimeter,
16 we took the pump and the trap tube and
17 attached it to the fence.

18 MEMBER FLOM: So will air move the
19 -- okay. So there is a big difference.

20 MR. HODDINOTT: Okay. Now, what
21 we found was a certain list of chemicals that
22 were coming out of the vents. We found a much
23 shorter list of chemicals, which are on
24 posters there, of what was at the perimeter.

1 We took an upper 95th average of the chemicals
2 for each chemical concentration that was found
3 on the perimeter, ran it through a risk
4 assessment, and the risk was within EPA's
5 acceptable range.

6 MEMBER FLOM: For all those
7 chemicals?

8 MR. HODDINOTT: Correct.

9 MEMBER KRONISH: Now are we
10 talking about the perimeter?

11 MR. HODDINOTT: The perimeter.

12 MEMBER KRONISH: Just the
13 perimeter.

14 MR. HODDINOTT: Now, interestingly
15 enough, if you take the maximum hit of every
16 chemical, the maximum concentration of every
17 chemical that was found in the vents
18 themselves, and compared them with OSHA
19 standards, the standards for Occupational
20 Safety and Health Administration, which looks
21 at our workplaces, we do not exceed those
22 standards. So we can take the concentrations
23 that are coming out of vents, release them
24 into a work environment and we say it was

1 safe.

2 MS. REILLY: But, you know, we
3 have -- but, you know, we have got residents
4 who live around there, so we weren't following
5 OSHA standards, we were looking at what people
6 would be exposed to living there.

7 MEMBER FLOM: Do those houses have
8 basements?

9 MR. HODDINOTT: No, they do not.
10 They are slab on grade, poured concrete right
11 on top of the surface.

12 MEMBER FLOM: So it is worth
13 sampling inside the house.

14 MR. HODDINOTT: We did sample
15 inside the houses. The report is ready.

16 We compared, seeing there are no
17 internal residential standards, because of all
18 the chemicals that we use in everyday life,
19 all the adhesives, cleaners, and if you just
20 look at this room, the paints that they have
21 used here off gas some chemicals. The glue
22 that they have used to put down some items off
23 gas some chemicals. The glue that they even
24 put the laminate on these tables will; so you

1 can't use outdoor standards in an internal
2 study.

3 So what we did was we compared the
4 results of what we found in the houses to
5 other studies that EPA has run in other parts
6 of the country that attempt to find out what
7 the typical home has in it, and we found that
8 there was no difference. There was no
9 difference between the houses around this
10 landfill than in the houses in downtown
11 Chicago or around any other urban area.

12 MS. REILLY: We also did some
13 comparisons between some of the homes away
14 from the landfill and the homes next to the
15 landfill. Now, that report is not out yet,
16 actually, but we tried to see if there was any
17 correlation between what we were finding
18 outside and what we are finding inside at the
19 landfill, and we didn't see that correlation.

20 Ironically, also, the residents that
21 were sampled inside their homes, they did
22 questionnaires, asking things like, "When was
23 the last time you cleaned? Did you recently
24 paint? Did you" -- you know, this type of

1 thing. So we tried to evaluate that against
2 what their answers to the questionnaires were,
3 and it was found that the homes that had the
4 highest concentrations were the homes that
5 recently had bathroom tile put in, recently
6 had floor tile put in.

7 So it seemed to make sense that you
8 would have higher concentrations of those
9 chemicals that would have been found in the
10 glues that were put there.

11 MEMBER HAHN: How long does it
12 take for that to dissipate out of your house?

13 MS. REILLY: I'm not sure.

14 MEMBER DORGE: What list of
15 chemicals did you sample for?

16 MS. REILLY: That's all on their
17 posters, three of them.

18 MEMBER DORGE: Were these the
19 carcinogens or the whatever?

20 MR. HODDINOTT: Some of them are,
21 some of them aren't carcinogens.

22 MEMBER DORGE: Does the list have
23 a name?

24 MR. HODDINOTT: T01 list. And

1 that refers to the sampling methodology and
2 the collection methodology that was laid down
3 by EPA.

4 MEMBER DORGE: And that includes
5 things like vinyl chloride and just plain
6 methane, too?

7 MR. HODDINOTT: No methane. We
8 measure methane separately.

9 MEMBER DORGE: Okay.

10 MR. THOMPSON: T-O stands for
11 toxic organics. It's a standard procedure;
12 and methane isn't considered a toxic organic,
13 it's more like a carrier gas in this case.
14 It's what is flushing everything out of the
15 landfill.

16 MEMBER DORGE: And you're saying
17 that you found different chemicals at the
18 perimeter or not all of the chemicals that you
19 found in the center?

20 MR. HODDINOTT: Some of them were
21 different.

22 We found -- let's see. Unfortunately, I
23 cannot remember all the specifics of the
24 report, especially one that we have agreed to

1 let the regulators review and to handle their
2 comments first before we publish it, so it has
3 been a couple of weeks since I read that
4 report.

5 MEMBER DORGE: Are the types of
6 chemicals you are finding by-products of
7 industrial waste breakdown or residential or
8 both?

9 MR. HODDINOTT: Sometimes you
10 can't tell the difference.

11 MS. REILLY: The same type of
12 compounds would have been used in household
13 products as well as industrial products.

14 MR. HODDINOTT: A couple of
15 chemicals that we did find were
16 tetrachloroethylene, trichloroethylene, in the
17 vent, vinyl chloride and benzene.

18 Now, if you look at those, they sound
19 like industrial chemicals; but vinyl chloride
20 is very common. Both tetrachloroethylene and
21 trichloroethylene are used as cleaning
22 solvents. In fact, if you have ever brought
23 home some dry-cleaning, dry-cleaning is -- the
24 clean dry-cleaning fluid is almost all pure

1 trichloroethylene.

2 MEMBER DORGE: Hope you don't --
3 better hope you didn't bring home the fluid,
4 too.

5 MEMBER CARRIGAN: Would you be
6 able to detect in a household three or four
7 items that just came from the dry-cleaner in
8 terms of volatile tetrachlorethylene?

9 MEMBER JOHNSTON: You can smell
10 it, I can smell it.

11 MR. HODDINOTT: The analysis was
12 so sensitive that --

13 MEMBER CARRIGAN: What are the
14 parts per million that you can detect?

15 MR. HODDINOTT: -- we can go down
16 to half a part per billion.

17 What we looked at was two micrograms per
18 cubic meter of air, which, a rough conversion
19 is about a half a part per billion.

20 Now, even though it's a different
21 medium, to give you an idea of what a part per
22 billion is, an olympic size swimming pool is a
23 hundred meters by 50 meters. If you have one
24 drop pure chemical in that, that's a part per

1 billion.

2 MEMBER DORGE: You are saying that
3 the levels you were measuring, if they -- they
4 exceed residential standards --

5 MR. HODDINOTT: There are no
6 residential standards.

7 MEMBER KRONISH: Exceed OSHA
8 standards.

9 MEMBER DORGE: I said within OSHA
10 standards; but those are generally not as
11 strict, because you are only exposed for eight
12 hours a day for so many years of your life --

13 MR. HODDINOTT: That's correct.

14
15 MEMBER DORGE: -- in the
16 workplace, so the standards that apply to
17 residential --

18 MR. HODDINOTT: There are no
19 residential standards.

20 MEMBER DORGE: Well, are there
21 risk-based criteria?

22 MR. HODDINOTT: There are
23 risk-based criteria for outdoor residential
24 exposure, yes.

1 CHAIRMAN O'KEEFE: I didn't catch
2 the words you were using. For what?

3 MR. HODDINOTT: There are
4 risk-based criteria --

5 CHAIRMAN O'KEEFE: That's what I
6 didn't hear.

7 MR. HODDINOTT: -- for outdoor
8 residential exposure; but there is nothing for
9 inside a house.

10 MEMBER CARRIGAN: What would be
11 the standard for a trichlorethylene on that
12 basis?

13 MR. HODDINOTT: The risk range
14 that would be used for that chemical, the risk
15 range to be used for any chemical -- and
16 that's cumulative 1 times 10 to the minus 4
17 cancer risk, to 1 times 10 to the minus 6.

18 MS. REILLY: I don't know,
19 offhand, what that concentration would give
20 that.

21 ~~MR. HOPKINS(?)~~
~~MR. SCHULTZ~~: Trichlorethylene
22 could probably be several hundred parts per
23 billion for that.

24 MR. HODDINOTT: Do you happen to

1 have Region III screening with you?

2 MR. SCHULTZ: Not with me.

3 MR. HODDINOTT: And I don't have
4 my copy with me.

5 MEMBER CARRIGAN: I mean, it
6 sounds to me that you have a method with real
7 explicit sensitivities relative to the
8 standard being maybe 10 to the 3 or 4 higher
9 in the sensitivity.

10 What have I just been handed by Bill?

11 MR. HODDINOTT: Is a document that
12 is put out by EPA Region III, and what they
13 give is they will take the risk range and
14 then, per chemical, assuming that that is the
15 only chemical at your site, they will back
16 calculate to a concentration in the media,
17 concentration in air, concentration in
18 drinking water, concentration in fish tissue
19 and a concentration in soil.

20 The chemical that I was interested in is
21 trichloroethylene.

22 MEMBER CARRIGAN: I just picked
23 that because you mentioned it.

24 MR. HODDINOTT: Okay. In there,

1 it's 1 microgram per cubic meter.

2 MEMBER DORGE: Per 10 to the minus
3 6?

4 MR. HODDINOTT: To give 10 to the
5 minus 6 cancer risk.

6 MEMBER DORGE: What about vinyl
7 chloride?

8 MR. HODDINOTT: Luckily, it's on
9 the same page.

10 That would be 2/100ths of a microgram
11 per cubic meter. It's .02.

12 MR. LAKE: How low can you detect
13 vinyl chloride?

14 MR. HODDINOTT: 1.

15 MEMBER DORGE: How does a -- I'm
16 sort of familiar with the process, but I don't
17 know exactly how it works. I have worked on a
18 lot of landfill sites, and they always try to
19 measure or estimate what the air emissions are
20 going to be; and I believe vinyl chloride, for
21 example, is a breakdown product of TCE and the
22 others, so that you might get more vinyl
23 chloride over time.

24 What you are measuring now isn't

1 necessarily what you are going to see.

2 Do they normally start with what's
3 actually coming out or do you start with
4 what's in the landfill and predict how much of
5 it is going to come out?

6 MR. HODDINOTT: You have to start
7 with what's coming out, because you rarely
8 know what went into a landfill, especially one
9 like this, which was closed in 1980.

10 EPA started in 1972. Correct me if I am
11 wrong, Owen. It's the legislation that starts
12 EPA. This landfill was operating a good 15
13 years before that. So we have no idea what
14 went into it before 1972, and since 1972 or
15 1972 to 1980, the records that were required
16 to be kept probably are not that detailed.

17 MEMBER DORGE: Okay. I guess I am
18 asking -- I'm sorry.

19 When you are plugging the numbers into
20 the risk assessment, are you plugging your
21 actual monitored vinyl chloride or whatever,
22 or are you looking at what's underneath,
23 what's in there, the vinyl chloride that's in
24 there, and predicting how much will migrate

1 through the cap, because that's the way I have
2 normally -- we have normally done it.

3 MR. HODDINOTT: A couple of things
4 that you can almost always be sure of is that
5 your concentration is going to decrease over
6 time.

7 So what we assume in risk assessment is
8 you take the amount that you do measure,
9 assuming that that is as high as it's going to
10 be from that point on, and you assume that
11 that level is going to be constant over
12 however long you are running the risk
13 assessment. For ours it was five years.

14 MS. REILLY: Now, that's an
15 uncertainty, that, because, of course, in
16 actuality, it could vary.

17 But in answer to your question, this
18 situation, we actually took the perimeter
19 data. As Keith said, we don't know what went
20 in there, so it would be very difficult to try
21 to assess how much, you know, solvent is in
22 Landfill 7 that's breaking down and actually
23 emitting, you know, vinyl chloride.

24 But what the perimeter is actually

1 detecting, it's a combination of what's coming
2 out of vents, what's coming out of the cap,
3 because the cap isn't going to be impermeable
4 to gases, that there is going to be some gas
5 coming through, and it is estimated there is a
6 lot more gas coming out of the cap than there
7 is actually coming out of the vents. We
8 haven't made sure of that yet, so we don't
9 know; but if you sample at the perimeter, you
10 are going to get both the perimeter or -- both
11 the gas vent emissions, the gas cap -- I mean
12 landfill cap emissions and, in addition, any
13 environmental emissions that are going on. If
14 there is a car going by, if there is a tractor
15 running, you are going to detect those in
16 there as well.

17 Now, in answer to your question, for
18 instance, the vinyl chloride, we didn't detect
19 that at the perimeter, and we did detect it at
20 the vents; but, like, the level that he read
21 out of Region III numbers, that was causing 10
22 to the minus 6 risk, was -- actually, that
23 level was lower than what we were able to
24 detect.

1 So what we did was add the -- was add
2 vinyl chloride into the risk assessment at
3 half the detection limit, as a conservative
4 measure, but we knew we found it at the vent.

5 This was also one of EPA's concerns,
6 that since vinyl chloride is one of the most
7 harmful chemicals here, that they wanted to be
8 able to predict the concentration of vinyl
9 chloride as you move away from the vents, and
10 so they have a predicted concentration of
11 vinyl chloride as you move away, and that's
12 the number they use, that predicted number in
13 their risk assessment.

14 CHAIRMAN O'KEEFE: Now, I think we
15 should --

16 MS. REILLY: Okay, Mark.

17 Thank you.

18 CHAIRMAN O'KEEFE: I am assuming
19 that, after we look at these posters, then we
20 will probably want to ask some more questions;
21 but if you have something right now --

22 MEMBER KRONISH: No, that's fine.

23 CHAIRMAN O'KEEFE: Let's go, then.

24 MEMBER KRONISH: I will write it

1 down.

2 MR. THOMPSON: I'm sorry. There
3 is some -- I am not going to talk about the
4 risk assessment, but there are three -- there
5 are three specific things about this landfill
6 that you ought to know that make it different
7 from other landfills.

8 One is that it's right on Lake Michigan.
9 It's very unusual to have a landfill right on
10 Lake Michigan, and that, obviously, we are all
11 very concerned about it. It doesn't affect
12 this particular air emissions risk assessment
13 so much, except that it might have an effect
14 on the meteorology a little bit; but that's
15 certainly a major concern for all of us that
16 we continue to have.

17 The second is, this is a landfill that
18 accepted a mixture of municipal waste and
19 industrial waste, including solvents, over the
20 years. They are mixed together; and since
21 then, what that EPA has found out, in the last
22 20 years of dealing with these situations, is
23 that when you mix these two things up, you end
24 up with an -- you end up with exacerbating air

1 emission problems, toxic chemical air
2 emissions problems.

3 The reason why that happens is you get
4 these degradation products from the solvents.

5 One of the most -- the one of concern to
6 us here is vinyl chloride. We believe that's
7 the degradation product from the solvents that
8 were disposed of in the landfill, and
9 municipal waste produces methane that strips
10 the solvents out into the area.

11 If you have one situation or other you
12 wouldn't have a problem, you either have just
13 methane or you just have chemicals that
14 wouldn't be emitting very much. So that's a
15 real common problem with those old sanitary
16 landfills.

17 The third special situation here is that
18 we have -- we have high -- relatively
19 high-density family housing right up on top of
20 the landfill, and that's very unusual to run
21 into in a landfill situation. Usually people
22 are at least a quarter of a mile away; and
23 when it comes to the air emissions, that
24 that's a big factor in the risk. So that's

1 why we are concerned about it.

2 MEMBER FLOM: Why do you think you
3 didn't get much of a turnout the other night?
4 Was it well-advertised?

5 MS. REILLY: Yes. The residents
6 have been informed of, you know -- and I think
7 the Navy could -- from the residents that have
8 been informed of what's been going around with
9 the clean-up of Landfill 7, and there have
10 been actually two meetings about Landfill 7.

11 MEMBER FLOM: But are they getting
12 it door-to-door? I mean, people who live
13 around the landfill are getting the
14 information door-to-door?

15 MS. REILLY: Do you want to
16 address that?

17 ~~MR. HOPKINS~~ ^{MR. SCHULTZ} MR. HOPKINS: For each of our
18 meetings, and even after meeting minutes, we
19 have given those door-to-door to each of our
20 residents.

21 MS. ROSS: Yes, hand-deliver every
22 time.

23 CHAIRMAN O'KEEFE: Just -- I'm
24 sorry. Did you have more to say?

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1 MEMBER FLOM: I just think that's
2 good.

3 CHAIRMAN O'KEEFE: I just wanted
4 to ask under -- for current siting of
5 landfills today, when we assume that the
6 entire process will be done more specifically,
7 what -- aren't there standards for the
8 proximity of residential housing?

9 MR. LAKE: I assume that they take
10 that into account. I don't have personal
11 knowledge of what their criteria are, but I
12 assume that you couldn't build a house too
13 close to a landfill.

14 CHAIRMAN O'KEEFE: I am fairly,
15 certain of that, and I was just wondering what
16 kind of a standard there is.

17 MS. REILLY: But, actually, we
18 looked into that. Wayne, didn't we look into
19 that? I know Bob did, to see if -- Bob is
20 from the Corps of Engineers. We looked and we
21 could not find any standards existing today
22 that required you have a residence so far away
23 from a landfill. That's totally going to
24 depend on the health effects from that

1 landfill.

2 CHAIRMAN O'KEEFE: Well, the
3 municipalities --

4 MS. REILLY: It's more of a zoning
5 issue.

6 CHAIRMAN O'KEEFE: I was going to
7 say municipalities do it through zoning, but I
8 had assumed it was based on some sort of
9 scientific recommendations.

10 MS. REILLY: No.

11 CHAIRMAN O'KEEFE: Okay.

12 MEMBER CARRIGAN: Just a question
13 on this benzene.

14 Is that less of a concern than the vinyl
15 chloride? What's the source of benzene?
16 Where does that come from?

17 MR. THOMPSON: Benzene was
18 measured in the vents. The thing that's a
19 problem in the risk assessment is that there
20 is a lot of benzene in the ambient air, too,
21 so it's hard to attribute risk to.

22 MS. REILLY: Benzene is in all
23 your gasoline emissions.

24 MR. THOMPSON: In the case of

1 vinyl chloride.--

2 MR. CARRIGAN: What's the big risk
3 as far as carcinogen?

4 MS. REILLY: The vinyl chloride is
5 a more potent carcinogen.

6 MEMBER CARRIGAN: Okay.

7 CHAIRMAN O'KEEFE: Okay.

8 MR. THOMPSON: Let's let Mark --

9 CHAIRMAN O'KEEFE: You should
10 proceed.

11 MS. REILLY: Barbara, what did --

12 MEMBER KRONISH: That's okay.

13 CHAIRMAN O'KEEFE: No, no, no, no,
14 Barbara. It's your turn.

15 MEMBER KRONISH: I'm sure that you
16 -- that this was covered, but I missed it.

17 Why have we concentrated or have you
18 concentrated on the periphery rather than
19 taking things like core samples?

20 MS. REILLY: We were concerned --
21 I guess I can address that. We were concerned
22 with the air emissions.

23 You mean core samples for the --

24 MEMBER KRONISH: Of the landfill.

1 MS. REILLY: -- to look at soil or
2 to look at what --

3 MEMBER KRONISH: To find out what
4 is causing -- I mean, from what I can
5 understand, vinyl chloride is emitted as a
6 gas, but it's not underground necessarily as a
7 gas.

8 MS. REILLY: Yes, it is. It
9 moves. No, it is a gas and it moves as -- as
10 Owen said, it is a chemical and it's probably
11 in the water, and then -- but the methane
12 strips that. Whatever the methane is moved
13 through, it strips that, the vinyl chloride,
14 and then moves up.

15 MEMBER KRONISH: Okay. So if it
16 follows a pathway to go up, would vinyl
17 chloride show up in a core sample?

18 MR. JOHNSON: It could show up in
19 a soil sample, yes.

20 MS. REILLY: It might.

21 MEMBER KRONISH: In a soil sample.
22 So if you found that there was vinyl
23 chloride in the landfill itself rather than in
24 the air around it, even if you hadn't found it

1 in the air around it, wouldn't you assume that
2 sooner or later it will be in that air, so --

3 MS. REILLY: Yes.

4 MEMBER KRONISH: There must be a
5 specific reason that core samples haven't been
6 taken.

7 CHAIRMAN O'KEEFE: The same
8 question Carol asked to some extent.

9 MR. THOMPSON: We are certain
10 vinyl chloride is coming from the landfill.

11 MEMBER KRONISH: Right. But you
12 don't know how much.

13 MS. REILLY: This goes back to
14 what the scope of this study was.

15 The scope of the study was just to
16 evaluate is there -- as Keith had said, there
17 were reported odor complaints from residents,
18 which end up not being from the landfill at
19 all, but nonetheless, in addition to the fact
20 that, in 1992, when we originally sampled
21 this, we did find vinyl chloride.

22 So we all asked -- we said, "My God,
23 this hasn't been sampled for four years. It
24 warrants looking at again," which is why we

1 did it; but it was just as a health evaluation
2 only. It wasn't to determine whether or not
3 the landfill needed to be closed.

4 And so taking a look at what the
5 existing conditions are, which is that there
6 are gases coming out of the landfill, what's
7 in those gases that's coming out of the
8 landfill, and do they pose health risks to
9 these residents, and that's the question we
10 want to answer.

11 MEMBER KRONISH: Okay. So we are,
12 in essence, treating the symptoms? We are not
13 -- we are not --

14 MS. REILLY: We were evaluating
15 the symptoms. We were evaluating them, that's
16 correct. We were evaluating them.

17 MEMBER KRONISH: Okay. That
18 answers it.

19 MS. REILLY: Okay.

20 MR. JOHNSON: I'm Mark Johnson.
21 I'm a toxicologist with USEPA, so I am
22 providing technical support to EPA on BRAC
23 facilities such as Fort Sheridan.

24 I'm glad a lot of these questions came

1 up in Keith's talk.

2 If you can focus on what we know was the
3 original problem, the main concern as we
4 evaluated the gases released from the
5 landfill, and as Owen had mentioned, our main
6 focus was on the issue of vinyl chloride, for
7 two reasons.

8 One, it was the most abundant gas found
9 in the vicinity; and, second, is the most
10 potent carcinogen of those that were detected,
11 so we wanted to make sure that we could
12 estimate the concentration that the residents
13 surrounding the landfill were exposed to and
14 evaluate the risks of that exposure.

15 So if I can just display sort of the
16 thinking of this.

17 If we think of the landfill as this area
18 in between the tables here, the sampling was
19 done around the perimeter, around these tables
20 here, and the risk analysis that Keith
21 mentioned was based on the assumption that
22 people would be exposed only when they were in
23 this area adjacent to the fence line.

24 Our assumption was that that would not

1 be an adequate summary of risk or evaluation
2 of risk. We were looking at the people that
3 were living in the area and would be exposed
4 to it continuously throughout the day.

5 We were particularly focused on young
6 children, because there is evidence that
7 children below the age of 5 are particularly
8 sensitive to vinyl chloride. There are some
9 physical -- physiological reasons. I can go
10 into detail with anyone who is interested; but
11 our concern was in this age group, is that
12 they would be in the residences probably most
13 of the day; therefore, their duration of
14 exposure would be much longer, much greater
15 than that of residents or adults who would be
16 going in and out of the area and were not
17 included in the original risk assessment.

18 So our approach was then to estimate the
19 concentration that the residents would be
20 exposed to, because we didn't have any data
21 from the perimeter that would tell us exactly
22 what the concentration was, and the problem
23 for that is there were two main vents that
24 were the source of vinyl chloride, Vent No. 3,

1 which is located in this area here, close to
2 the fence line for Chatfield Court. The
3 concentrations of vinyl chloride that were
4 depicted in this area, and the units here are
5 micrograms of vinyl chloride per cubic meter,
6 per volume of air. No. 3 had around 800
7 micrograms per cubic meter.

8 The second one was No. 6, which was
9 located in this area, just to the east of the
10 residents. This was on the order of 480.
11 Now, these were, again, one sampling time. It
12 was taken during the middle of August. These
13 numbers could change during the year, so we
14 only have this information available to
15 estimate the risks.

16 Now, to compare that with what we would
17 consider a risk screening level, and I think
18 Keith had mentioned this right above the
19 chart, that if we were to evaluate the risks
20 of exposure, we use a cancer, a probability
21 estimate of the chances of someone contracting
22 a cancer associated with an exposure, and we
23 use the screening level of 10 to the minus 6,
24 or one in a million chance of getting cancer,

1 and the concentration of vinyl chloride that
2 would be associated with 10 to the minus 6
3 screening level is .02 micrograms per cubic
4 meter.

5 Since there were significant levels of
6 vinyl chloride coming out of the vent, we
7 wanted to make sure we knew what the
8 concentrations were to the residents.

9 So we plugged in the information we had
10 about these concentrations. We estimated --
11 actually, CHPPM estimated the velocity of flow
12 through the vents, and we plugged that into a
13 model, and we had an air modeller that took
14 the data we had available to us to estimate
15 the concentration that we could estimate
16 around the perimeter.

17 If you look at the poster after I finish
18 summarizing this, it displays the various
19 concentrations we estimated at locations as
20 distributed as contour lines around the
21 landfill boundaries, and we took the highest
22 concentrations which could respond to the area
23 near Chatfield Court and plugged that into a
24 risk assessment.

1 So we assumed that we were looking at an
2 exposure to a young child who would be exposed
3 24 hours a day to the air, which we did not
4 assume that there would be a barrier between
5 the indoor and outdoor air, that there would
6 be such an equilibrium between the two areas,
7 and we also had adjusted the toxicity to also
8 account for the increased sensitivity of the
9 child exposed to this.

10 And what we have displayed here is a
11 graph which displays the risk as a function of
12 age.

13 And what we found was that the young
14 child, in the age of less than five, had a
15 risk of 2 times 10^{-5} , which
16 falls -- if we use this risk range that we
17 have talked about, that EPA uses for screening
18 below the 10^{-6} , we consider no
19 action. Above 10^{-4} we consider
20 immediate reduction of risk.

21 MS. REILLY: Remedial action.

22 MR. JOHNSON: Remedial action, or
23 reduction in exposure by removing the
24 individuals from the source.

1 So we have this risk, what's called a
2 risk range between these two values, and it's
3 within this risk range that we consider a -- I
4 ran out of chalk here.

5 MEMBER KRONISH: There is some on
6 this end.

7 MR. JOHNSON: Okay. We consider
8 this a risk management range, which,
9 essentially, means that those individuals who
10 are responsible for making decisions have a
11 choice of balancing various factors in making
12 a decision of whether or not this is really
13 considered to be a safe exposure or not.

14 Now, the exposure I mentioned that we
15 estimated falls within this range, toward the
16 upper end of the range, but, certainly, within
17 the range that we would consider.

18 MS. REILLY: You mean towards the
19 lower end, 1 times 10 to the minus 5th, 1.5 in
20 towards 10 to minus 6?

21 MR. JOHNSON: Yes. We are talking
22 above 10 the minus 5 there.

23 So that's a summary, then, of our risk
24 analysis. We tried to estimate the most

1 sensitive receptor measure that would be
2 protective of individuals who would be at
3 greatest risk, and came up with this estimate,
4 and have made our recommendations to the Navy
5 personnel office regarding that exposure.

6 MEMBER DORGE: Were you plugging
7 those numbers into the formula or was it an
8 average or what did you use?

9 MR. JOHNSON: Well, what we did
10 was, we would -- where is the other poster
11 board?

12 MS. REILLY: In the back.

13 MR. JOHNSON: Okay. There is
14 another chart that shows how we used the
15 information to plug into the model. We use
16 the concentrations we found, we use the
17 emission rates that we estimated from the
18 vents, we plugged into the --

19 MR. THOMPSON: That one.

20 MR. JOHNSON: Yes. You probably
21 can't see it in the back; but we do have a
22 handout up here for you to read through, and
23 we have structured it in a way where we have
24 itemized the specific questions that we feel

1 you might be interested in having answers to
2 and have tried to address those, so you might
3 want to bring them up after I get done
4 talking.

5 But, essentially, what we did is we took
6 three types of information to plug into this
7 model. We took the sampling data that CHPPM
8 had done and estimated an emission rate based
9 on this data. We took in receptor locations,
10 or individuals who would be exposed to this,
11 where they were located relative to the vents,
12 and we plugged in information about weather
13 conditions, meteorological data, to estimate
14 the dispersion of the gases once they were
15 released, how much would they be depleted by
16 as a result of the release, and I came up with
17 what we term as an exposure point
18 concentration, and that would be the
19 concentration present at the specific
20 locations that people would be exposed to, and
21 then estimated the risk based on that.

22 MEMBER DORGE: Do you have that
23 number?

24 MR. JOHNSON: The number for --

1 MEMBER DORGE: The exposure point
2 concentrations.

3 MR. JOHNSON: That is the exposure
4 point concentration that we estimated for the
5 highest exposure was .2 micrograms per cubic
6 meter.

7 MEMBER DORGE: Okay.

8 MEMBER KRONISH: When you give
9 this information to the people or the people
10 in charge of the area that's nearby, do you
11 suggest remedies? What's the next step?

12 MR. JOHNSON: Well, there are
13 already plans for a remedy in place for the
14 capping of the landfill; so it is anticipated
15 that this exposure will be on the order of a
16 year-and-a-half to two years, presuming the
17 continued exposure.

18 MEMBER KRONISH: I see.

19 MR. JOHNSON: Yes. We would have
20 perhaps a more stronger opinion if we can tell
21 there was no action going to be taken to
22 reduce that exposure.

23 MR. DIETZ: Do you have models to
24 predict the concentrations at the edge of the

1 landfill?

2 Were they consistent with the model?

3 MR. JOHNSON: That was a good
4 question.

5 The problem with the -- the vinyl
6 chloride is that the detection limit is on the
7 order of two micrograms per cubic meter, so we
8 would not have been able to detect the
9 concentrations, we would have predicted at the
10 fence line. So that's the dilemma that the --

11 MR. DIETZ: But wasn't -- you say
12 the greatest exposure was 2, and that -- you
13 are saying the greatest exposure you would
14 predict is below the detection level.

15 MR. JOHNSON: That's right.

16 MR. DIETZ: Okay.

17 MR. JOHNSON: Right.

18 MEMBER CARRIGAN: I missed that.

19 MR. JOHNSON: This is the
20 concentration present at the residence, not at
21 the fence line.

22 MEMBER DORGE: So in the center of
23 the landfill, the levels --

24 MR. JOHNSON: Are higher.

1 MEMBER DORGE: -- are in the
2 hundreds. At the fence line, they are
3 something else, and --

4 MR. JOHNSON: They were probably
5 between --

6 MEMBER DORGE: -- and by the time
7 you reach the residence, they are predicting
8 it would be .2?

9 MR. JOHNSON: Right.

10 MS. REILLY: It's pretty
11 consistent between the two studies that it
12 disperses.

13 MEMBER CARRIGAN: As you go 500
14 yards or a hundred yards away from the
15 landfill, what kind of fall-off would you
16 predict, what kind of gradient?

17 MR. JOHNSON: We have a contour
18 map that shows those, the expected dilution of
19 the vinyl chloride as you move away from the
20 landfill; but you would certainly, obviously,
21 expect that with distance.

22 MS. REILLY: There's a lot of
23 details that are involved in here, that he's
24 just summarizing, that when you do air

1 modelling, that there are many, many factors
2 that are involved in that air modelling; and
3 then that could be any one point depending on
4 the meteorological conditions around landfill,
5 so that the contour lines could shift,
6 basically, just depending on what the
7 meteorological conditions are going to be; and
8 so you can see which meteorological conditions
9 he used in the model there, based on regional
10 information.

11 CHAIRMAN O'KEEFE: Chris had a
12 question over here.

13 MEMBER ADAMSON: You mentioned
14 carcinogens.

15 Is this the major focus there or are
16 there other possible problems by multiple
17 chemical exposure for children or birth
18 defects or long-range impact from chemicals
19 other than, you know, cancer effect?

20 MR. JOHNSON: Well, that's a good
21 question; and, certainly, Keith's risk
22 analysis looks at other chemicals that were
23 detected at the perimeter and looked at both
24 cancer and non-cancer end points to estimate

1 the risk. Our focus was specific on vinyl
2 chloride exposure.

3 MS. REILLY: Now, I will also
4 mention that Keith's risk assessment combined
5 both or all the carcinogens and all the
6 non-carcinogens to come up with a total risk
7 based on that.

8 You mentioned long-term exposure.
9 Again, the whole scope of our study was just
10 to evaluate whether or not there is a
11 potential health risk to the current
12 residents.

13 Now, the current residents, as you know,
14 being military families, rotate every five
15 years, so we wanted to use an exposure
16 scenario that was realistic to those
17 individuals, and so that was the exposure
18 scenario we looked at: During the time that
19 they live here, what are the risks to them?

20 MEMBER ADAMSON: No. I was
21 thinking of like a two-year-old having a
22 year's exposure to some sort of chemical.
23 Could he move away and still have impact from
24 that?

1 MS. REILLY: We evaluated a
2 two-year-old staying there for five years,
3 actually.

4 MR. JOHNSON: It's a good point,
5 though.

6 EPA policy is to consider any
7 carcinogenic exposure to be a non-threshold
8 event. We don't assume that there is any safe
9 level to which there is no effect. So that is
10 something that we do consider, that if you
11 have an exposure, even though it's a limited
12 period of time, you retain that burden, that
13 risk, throughout your life.

14 MEMBER ADAMSON: There is a
15 question back there.

16 MEMBER NOYES: Could we hear that
17 again, what you just said, something about
18 retaining it for the rest of your life?

19 MR. JOHNSON: Right.

20 The exposure you receive, even though it
21 was in a short period of time, you retain
22 that. Whatever damage that occurs, is
23 retained throughout your life.

24 MEMBER NOYES: So, then, if you

1 are exposed to that same substance again, you
2 might get a faster reaction to it than you
3 would the first time?

4 MR. JOHNSON: I wouldn't
5 necessarily draw that conclusion. It's not
6 like an immune response, where that can occur.
7 This is simply a chemical damage to,
8 essentially, your genetic material, and
9 subsequent exposures don't necessarily mean
10 that there will be an accelerated response,
11 although there is certainly -- the theory of
12 how cancer develops indicates that there are
13 multiple stages, and there may be some
14 situations where exposures to certain
15 chemicals require prolonged exposure. But,
16 for vinyl chloride, there is evidence to
17 indicate that a relatively short period of
18 exposure can result in a dramatic risk, at
19 least a risk which, for children, is
20 equivalent to a different time exposure to an
21 adult.

22 MEMBER NOYES: Wow.

23 MS. REILLY: Let me just give you
24 an idea of what these risks come out to,

1 because I'm not sure that it hits home a lot
2 of times.

3 For everyone here, we are all normal,
4 average individuals. You have a -- normally,
5 it's not naturally, but a general risk of 25
6 percent chance to 33 percent chance of getting
7 cancer in your lifetime. That is normal,
8 average cancer risk to everyone.

9 What this does and what we have
10 calculated here are additional risks to that
11 normal, average risk of getting cancer of 25
12 to 33 percent.

13 What these numbers -- and assuming
14 constant exposure to Landfill 7, vinyl
15 chloride, to a child, that would mean,
16 roughly, in addition to the 25 percent
17 already, an additional .0016 percent chance of
18 getting cancer. To an adult at constant
19 exposure you have an increased chance of
20 .00072 percent, so that's what those numbers
21 translate into.

22 So, in a sense, over and above the 25
23 percent chance already, they have got a .0016
24 percent for a child and .00072 percent for an

1 adult. And --

2 MEMBER FLOM: An exposure of how
3 long a period?

4 MS. REILLY: That's over the
5 five-year period that they live here.

6 MEMBER FLOM: Which is unlikely,
7 anyway.

8 MS. REILLY: For the current
9 residents, it's a maximum time.

10 MEMBER ADAMSON: Who established
11 the 25- to 33-percent chance for the general
12 public of getting cancer?

13 MEMBER FLOM: That's just a stat
14 that --

15 MS. REILLY: That's a statistic.

16 MEMBER NOYES: You are not only
17 dealing with cancer in this study, aren't you?

18 MS. REILLY: I am specifically
19 focusing on vinyl chloride, since the risk
20 numbers I just gave you were a combination of
21 EPA and CHPPM, but EPA specifically focused on
22 vinyl chloride.

23 MR. LAKE: I am wondering, ^{Mark}Chuck,
24 if you could address the assumptions that you

1 made, and the Illinois EPA and Army had a
2 little difference in opinions as far as your
3 assumptions, and the fact is that we feel that
4 this is the absolutely worst-case scenario
5 that he's presenting to you; maybe not
6 absolute, but it's one of the worst-case
7 scenarios that you could present, and could
8 you address that?

9 MR. JOHNSON: We don't agree it's
10 worst-case, for a couple of reasons. One is
11 -- I don't want to draw too many contrasts,
12 but I think it's important to compare at least
13 the critical exposure assumptions.

14 We felt that -- again, going back to the
15 critical individuals we were concerned about
16 was children. We felt that we need to
17 evaluate the risks to those individuals.

18 We assumed that they would be in their
19 residences virtually the entire day for this
20 age group. We didn't think it was appropriate
21 to simply estimate what their exposure would
22 be when they are outdoors, because we felt
23 that there was an exchange of the outdoor air
24 into the indoor. There was no evidence of

1 barrier.

2 Actually, the CHPPM data itself proves
3 exact -- or at least suggests that there is an
4 equilibrium between the indoor and outdoor
5 air. The concentration information were the
6 same indoors as they were outdoors, which, to
7 my mind, suggests that there is, in fact, an
8 equilibrium; that there is no barrier at the
9 window or at the wall, but there is an
10 exchange between the air volumes.

11 MR. THOMPSON: We also checked
12 literature, and there is -- which suggests
13 that, you know, the air inside a building
14 during the winter can -- when it's very cold,
15 it turns over several times an hour; and in
16 summer, if people have their windows open, you
17 get more of an exchange.

18 MS. REILLY: There's actually a
19 lot of issues here regarding the situation
20 with the outdoor air and the indoor air that
21 do have to be factored in here, and there are
22 many, many different risk assessors that could
23 take a look at this and say whether or not
24 there really is an equilibrium, what are the

1 differences for the chemicals that are
2 detected inside versus outside, the weather,
3 the air intakes on homes. In fact, a building
4 would be a barrier, or at least, perhaps,
5 cause dispersion effects from chemicals,
6 particularly coming from the landfill. There
7 are all sorts of different factors that are
8 variables, I guess, in this, and that's part
9 of the difficulties of risk assessment and
10 even air modelling and risk assessments in
11 general; that is, there are so many different
12 factors you can plug in, nothing is an
13 absolute answer, but it's the best estimate
14 that right now we have available to use.

15 It's the best tool, this risk
16 assessment, and in terms of predicting air
17 concentrations, the air modelling is sort of
18 the best tool that we have got; so you have
19 got to make assumptions on what you are going
20 to plug in to that risk assessment, what
21 parameters you are going to plug in, what
22 parameters are you going to plug into the air
23 model; and a conservative approach is always a
24 good one, and so a conservative, reasonable

1 approach is always a good one, and in this
2 situation, it was a reasonable, conservative
3 approach to take.

4 MR. JOHNSON: Keith, you had your
5 hand up.

6 MR. HODDINOTT: Yes.

7 I was just wondering, seeing that this
8 is the first time I have had heard Mark's
9 presentation, I was just wondering, in his
10 model, did you assume that conservatively 800
11 microgram per cubic meter was a constant
12 evolution out of Vent No. 3?

13 MR. JOHNSON: We would assume for
14 the modelling that that would be a constant,
15 that's right. We had no basis for using any
16 different number.

17 MS. REILLY: Yes. As I said,
18 that's got to be an assumption that has to be
19 made without given other data.

20 CHAIRMAN O'KEEFE: But I felt it
21 was leaving the group with the impression that
22 that was the emission rate for that vent.

23 MS. REILLY: We did measure that
24 vent four times over four days, and the

1 emission rate for that vent varied from
2 non-detection to 800. It was actually 809
3 micrograms per cubic meter. So you can see
4 how these concentrations, even within a short
5 period of sample, change, vary. You know, we
6 sampled for four days, Keith?

7 MR. HODDINOTT: Yes.

8 MS. REILLY: Four days. We have
9 Vent No. 3 producing no vinyl chloride and
10 Vent No. 3 producing 800, you know, micrograms
11 per cubic meter. So it's another conservative
12 assumption to add in that, a maximum value.

13 MEMBER HERLOCKER: Is it fair to
14 ask why does it? Is there an answer to that,
15 without going into great detail, how can it
16 vary from 0 to 800?

17 MS. REILLY: It depends on
18 barometric pressure, on how much gas actually
19 got free in that, pressure. Although,
20 actually, we do have barometric pressure
21 readings, and it didn't change over the
22 period, much the same, very much as always, so
23 it just would be a matter of what the methane
24 during that time period came in contact with

1 and carried with it up through landfill -- I
2 mean gas vent.

3 MR. HODDINOTT: To give you a good
4 analogy of what might be happening here, has
5 anyone ever deflated a rubber boat or an air
6 mattress?

7 UNIDENTIFIED SPEAKERS: Sure.

8 MR. HODDINOTT: When you first
9 pull the plug, a lot of air comes out, and
10 then after a little bit of time, it comes down
11 to almost nothing comes out, but there are
12 little pockets of air in there, and you have
13 to push those little pockets out, and it
14 pushes air out at different rates.

15 Well, if you look at that air as the
16 concentration of chemicals in this landfill,
17 at first back in the 1980's when they first
18 put these vents in, they probably had a more
19 constant rate of the chemical coming out; but
20 now that the source is being played out as, if
21 you will, you have these little pockets of
22 chemicals, that when they make it to the vent,
23 you get a high value, but when -- between
24 times that they make it to the vent, you have

1 a lower value.

2 MEMBER HAHN: But is that almost
3 inverted? Like Carol mentioned, this is a gas
4 that's created over time. The vinyl chloride
5 wasn't put in there, but it develops over
6 time, so it would almost be a reverse of that.
7 It wasn't put in there, but over time it's
8 created.

9 MS. REILLY: But remember that
10 landfill is already 15 years old. It's on the
11 downhill slide in terms of decomposition.

12 MR. JOHNSON: We don't know that.
13 You don't know that.

14 If the concentration as measured in the
15 gas vents in 1991 are virtually the same,
16 certainly the same range, actually a bit lower
17 that exist in there currently, there is no
18 evidence to suggest that there is any
19 depletion.

20 MS. REILLY: I am just looking at
21 general lifetime of a landfill.

22 MR. THOMPSON: There is also
23 another theory.

24 MR. JOHNSON: Is that this

1 landfill has become saturated since the bluff
2 on Lake Michigan was capped with a fairly
3 well-designed cap. Apparently, it doesn't
4 seem to be leaking, but the groundwater has --
5 in some spots has almost come up to the top of
6 the gas vents, and there is a theory that if
7 we start to dewater the landfill, that the gas
8 generation rate is going to increase
9 dramatically, so we could get more gases out
10 of this landfill for a while.

11 MEMBER HAHN: Because it if varied
12 between 0 and 800, also, if there is logical
13 as to how high it could go on a variation?

14 MS. REILLY: There's, actually,
15 very many -- again, these just very big
16 variables.

17 Just -- Wayne Ingram, I think, has
18 spoken to you before, and he is dealing with
19 the feasibility study for Landfill 7, and you
20 can give us a general idea of the life of a
21 landfill, I guess, in general. Wayne.

22 MR. INGRAM: Estimating landfill
23 gas generation rates is not a highly accurate
24 theory or something that's done, but it can be

1 done.

2 There are fairly standard models, and we
3 went through these and used different
4 variables and ranges of variables to look at
5 things; but what you usually find is that the
6 degradation of waste peaks within a year after
7 that waste is placed in a landfill.

8 So that means that the gas generation
9 probably did peak in Landfill 7 sometime
10 around 1980; and there may be some play in
11 that, but probably not 15 years' worth of
12 time. So we think that peak has passed.

13 We think the landfill has probably been
14 saturated throughout its entire life. There
15 are reports, from EPA's inspections, evidence
16 of ponding behind the waste when it was
17 operating, so we think it was probably
18 saturated; and that may be one of the bigger
19 factors that affect the generation rate on a
20 short time scale.

21 If you have a rain, the water percolates
22 into the landfill, changes the pressure
23 distributions in the waste and then causes
24 fluctuations.

1 MS. REILLY: Well, I think we have
2 had a lot of -- Barbara.

3 MEMBER KRONISH: Sorry. I keep
4 doing this.

5 You mentioned the phrase "dewater."
6 Somebody mentioned the phrase -- it was over
7 here, that area, mentioned "dewater."

8 When you dewater, is the water tested
9 for any of these toxins or any of these
10 chemicals and what do you do with the water?

11 MS. REILLY: Actually, why don't I
12 turn that over to Wayne, because, No. 1, we
13 have already sampled leachate that's in
14 Landfill 7.

15 Wayne, did we detect vinyl chloride in
16 the leachate?

17 MR. INGRAM: I believe not. I'm
18 not certain that we -- what we found with it,
19 but, in fact, we tested for a fairly long
20 range of organic materials and, in fact, only
21 found, above detection limits, two materials,
22 and one of those were vinyl chloride, and they
23 were at fairly low concentrations, near their
24 detection limit.

1 So out of the long list that we tested,
2 we found no organics, basically.

3 MS. REILLY: And those were -- the
4 leachate that was sampled was directly out of
5 the gas vents.

6 But to answer your question directly
7 about when we dewater this landfill, there
8 will be pretreatment.

9 MR. INGRAM: To do anything with
10 that landfill, whether to cap it or to do
11 anything else, the water needs to be removed
12 from there. You will get settlement of the
13 waste as the water is withdrawn, so that is in
14 the works, that's going to happen.

15 There is some uncertainty about what
16 will happen when the water is drawn down. Gas
17 generation is a biological process, and the
18 bacteria normally are considered to be
19 maximized. The generation of gas maximize
20 with the highest moisture content.

21 Now, when you take the water down, there
22 may be an opportunity for the mass -- the
23 temperature to increase, which tend to
24 increase biological activity; so you have got

1 offsetting things there, one tending to raise
2 it, one tending to lower it.

3 We think that there is very likely to be
4 a change. We are not so convinced that it's
5 going to be a high peak or a long-lasting
6 peak. We expect to see a change of some
7 amount. I guess we are not convinced at this
8 point that it's going to be a large change or
9 it's going to be long-lasting.

10 CHAIRMAN O'KEEFE: Beryl.

11 MEMBER FLOM: Does this mean that,
12 in the summertime when it's warmer out, there
13 would be different gas measurements?

14 MR. THOMPSON: Actually, yeah.
15 It's not the season so much that affect the
16 gas generation rate as the barometric
17 pressure, because the change in pressure
18 between down below ground and above it can
19 cause --

20 MS. REILLY: There is a big effect
21 of temperature on biological activity,
22 absolutely.

23 MR. THOMPSON: We talked to some
24 experts around the country, and that it can

1 vary by 10 times with the pressure. The
2 temperature really doesn't change very much
3 once you get three or four feet below ground,
4 it stays pretty constant throughout the year.

5 MEMBER HAHN: Is there any plan to
6 continue to monitor the air? Because I think
7 we have got, you know, a large variation in
8 the sampling information that we have got.

9 Is there any plan to continue sampling
10 to get a better idea of saying, "We go from 0
11 to 800. How high does it really go on a real
12 high day?" There was no change in barometric
13 pressure in the four days we sampled, but we
14 have a sampling variation of 0 to 800.

15 Is there a plan to continue to sample to
16 say, you know, is there a potential problem or
17 not, to get a better idea of, you know, the
18 more information we get, the better idea of
19 potential exposure and whatnot?

20 MS. REILLY: That's a very good
21 question.

22 Actually, during the spring it will be
23 sampled again, and that will be part of the
24 DOD operable unit. So it worked out very well

1 in that the spring there will be a very long
2 effort, basically, on sampling Landfill 7,
3 primarily to complete the baseline risk
4 assessments for Landfill 7; but it also will
5 function to give us some more long-term
6 answers as to what sort of happens in terms of
7 what's coming out of the landfill and what gas
8 production looks like.

9 MR. THOMPSON: Another thing to
10 remember about this kind of sampling, it's not
11 as simple as just sticking a meter out there
12 and reading it. This is pushing analytical
13 equipment to the limits. It's -- if you are
14 going for vinyl chloride at the detection
15 limit, it can -- I don't know what it costs
16 formally, but I have been told it can cost as
17 much as a thousand dollars for a sample, one
18 simple sample, and that really adds up fast,
19 and if you are trying to, you know, test the
20 ambient air to verify models or over a range
21 of meteorological conditions, it's just -- you
22 are -- it's very expensive and it just isn't
23 feasible to do it.

24 MS. REILLY: That's why they came

1 up with air modelling, because, actually, to
2 sample constantly, all the time, was
3 absolutely -- I mean, most people couldn't do
4 it because it was unaffordable.

5 CHAIRMAN O'KEEFE: Now, what is
6 the pleasure of everybody? It's getting late.

7 MS. REILLY: Do you still feel
8 that --

9 MEMBER FLOM: I have a question.
10 I have another issue, another question I would
11 like to ask.

12 CHAIRMAN O'KEEFE: Relating to the
13 presentations?

14 MS. REILLY: No.

15 MEMBER FLOM: No.

16 CHAIRMAN O'KEEFE: A new issue.

17 MEMBER CARRIGAN: Can we walk
18 around and look at these posters?

19 CHAIRMAN O'KEEFE: Do you guys
20 want to break and look at these for now or
21 handle the rest of the agenda and then break,
22 adjourn, and have people go back and at their
23 pleasure, maybe? Let's break, then, now and
24 figure --

1 MS. REILLY: What, come back in --

2 CHAIRMAN O'KEEFE: -- ten minutes,
3 five to ten minutes. Good.

4 (Whereupon, a recess was had,
5 after which the meeting was
6 resumed as follows:)

7 CHAIRMAN O'KEEFE: I would like to
8 call the meeting to order. If people will
9 take their seats.

10 I would like to open the floor now for
11 further questions? Do any members of the RAB
12 have -- yes, Paul.

13 MR. LAKE: In case anybody wanted
14 to ask the Illinois EPA its opinion, I just
15 invited our risk assessor up here and I was
16 remiss in introducing her. She was in the
17 back of the room. Her name is Connie
18 Sallinger.

19 MS. SALLINGER: Hi.

20 MR. LAKE: So if you have any
21 questions for her, feel free to ask her as
22 well.

23 CHAIRMAN O'KEEFE: I think, with
24 that lead-in, what's the IEPA's opinion of all

1 this?

2 MS. SALLINGER: We had a review
3 role in both the USACHPPM and USEPA, what
4 USEPA has done, and we were satisfied -- upon
5 revisions, we were satisfied with the
6 assumptions that USACHPPM used for their risk
7 assessment, recognizing the data gaps is what
8 USEPA filled in as much as possible with their
9 modelling. So we have had a review role and
10 we have been involved and very satisfied with
11 the products.

12 CHAIRMAN O'KEEFE: Thank you.

13 Are there further questions here? Thank
14 you very much, by the way.

15 MS. SALLINGER: You are welcome.

16 CHAIRMAN O'KEEFE: Barbara.

17 MEMBER KRONISH: I have another
18 question.

19 CHAIRMAN O'KEEFE: Good.

20 MEMBER KRONISH: It came up while
21 we were talking about -- I was talking with
22 various people about dewatering.

23 Since this is -- since the basin that
24 all the water comes into is Lake Michigan, and

1 since this landfill is right off Lake
2 Michigan, wouldn't the normal course, as it's
3 being -- well, two questions.

4 As it's being dewatered, wouldn't water
5 normally just continue to flow in it and
6 through it? And -- and my second part of that
7 is: Isn't there something there for the
8 leachate right now? And is there any leachate
9 that's coming out of this at the moment that
10 we are assessing, and if it's not, where is
11 all of this water going to?

12 MS. REILLY: Well, I'll address a
13 little bit; but, Wayne, if you won't mind, to
14 expand upon what I am going to say.

15 But, in fact, yes, there is, obviously,
16 leachate right now inside of Landfill 7, and
17 we seem to have evidence right now that there
18 is a plug, if you might call it, at the end of
19 Landfill 7, that is a very thick, impermeable
20 layer that is preventing lots of water
21 movement essentially going from Landfill 7 out
22 into Lake Michigan, which is why we have such
23 high saturation in Landfill 7, which is why
24 the water table is so high in Landfill 7.

1 However, there is a storm drain that's
2 running underneath the landfill. That's,
3 basically, to serve -- to drain the watershed
4 that the natural ravine used to drain, and we
5 believe perhaps that may be an avenue for
6 leachate to exit into Lake Michigan.

7 Now, that has been sampled -- I don't
8 recall offhand. We didn't really seem to find
9 -- I know we have -- iron is an issue.

10 Wayne, we didn't find much else in this
11 from our limited sample. We didn't do as many
12 analyses on that as we did as liquids in the
13 gas vents, however; but even liquids in the
14 gas vents, we do not have large problems with
15 them, if you might call it, because we --
16 there are a couple of issues that exceed
17 drinking water standards, and I think iron is
18 one, lead is another; but they still meet --
19 they still meet non-drinking water standards
20 is the point, I guess.

21 But do you want to expand upon that?

22 MR. INGRAM: The question about
23 the quantity of water in the landfill, the
24 landfill appears to us to be situated in

1 fairly tight clays, as Craig was saying, so
2 that the water movement through that clay is
3 very slow, with the possible exception that
4 there is a sand seam there, and even then
5 it's, we feel, probably an isolated sand seam,
6 so that, to get to the landfill, it has to
7 move through the clay, and that's very slow.

8 On the other hand, however, there are
9 two problems with the landfills as far as
10 hydrology. One is the landfills have a flat
11 top on them, so any rainfall or snowfall that
12 lands there either evaporates or it percolates
13 into the landfill because it doesn't run off.

14 The other thing is that there are low
15 areas on or around the landfill, so we
16 actually have runoff from surrounding areas
17 flowing down onto the landfill, and
18 percolating through the more permeable soil
19 that's covering the landfill. That's why we
20 have the mound there.

21 CHAIRMAN O'KEEFE: Carol.

22 MEMBER DORGE: I would like to ask
23 some questions about methane, because I don't
24 know that much about what kind of problems it

1 might cause; but before I do that, just to
2 clarify something on the sampling of liquids
3 in the gas vents.

4 Is there -- how deep do they go? Is
5 there an approved methodology for that?

6 MR. INGRAM: The vents range from
7 about 20 feet to about 60 feet deep. No. 6 is
8 out towards the edge of the bluff, and the
9 furthest point in the ravine, the sort of
10 center in the ravine, so it's the deepest one.

11 As far as sampling, you can treat them
12 like any monitoring well. The only thing that
13 was not done in the sampling of the gas vents,
14 and it was because of volumes it would
15 generate, when you sample a groundwater
16 monitoring well, you usually pump water out of
17 the well, so you are sampling fresh inflow
18 into the well.

19 We did not do that when we sampled the
20 gas vent, simply because of the volume of
21 liquid that we would have generated; but we
22 did mix the liquid in the vent so that we
23 didn't have a stratified or variation from the
24 top to the bottom. We didn't want to sample

1 that, so we mixed liquid in the vent before we
2 sampled it.

3 MEMBER DORGE: So you wouldn't --

4 CHAIRMAN O'KEEFE: Carol, would
5 you speak up, too? I'm sorry to mention it at
6 this point, but someone came up to me at the
7 break and said they were really having a lot
8 of trouble hearing.

9 MEMBER DORGE: Okay. By mixing
10 the water in the vent, would that -- I
11 imagine, if you have gases, they would float
12 to the top, so you would -- might not get a
13 sample that was representative of the
14 concentration of gases that would be at the
15 surface.

16 MR. INGRAM: You might increase
17 the gas movement somewhat.

18 We did take a sample of things that we
19 -- that you would normally expect to be near
20 the surface, like oil and grease. We sampled
21 that before we mixed it, and then we tended to
22 mix the bottom more.

23 What I am saying is, I don't think we
24 had a lot of turbulence that would have

1 released a lot of gas by our mixing, but
2 enough to mix up any really severe
3 stratification in the well.

4 MEMBER DORGE: When you say sample
5 for the surface layer, were you looking for
6 the vinyl chlorides and the volatiles?

7 MR. INGRAM: No, looking basically
8 oil and grease, things that would tend to
9 float up to the surface and be on the surface.

10 MEMBER DORGE: Okay. Can somebody
11 give us a little report on what the methane
12 sampling results were and what that means, if
13 it means anything?

14 MS. REILLY: Methane sampling.

15 Jenny, do you want to -- did you hear
16 her question?

17 MS. ROSS: We haven't gone back
18 and done any more since that initial
19 walkaround field screen.

20 MS. REILLY: Yes. This study that
21 was done was done to evaluate health risk,
22 chemicals that could cause health risk, and
23 methane is not considered a chemical that
24 causes health risks, it's an explosive safety

1 concern. So that is one of the evaluations
2 that still needs to be done.

3 A few things have been done in terms of
4 -- I think you sampled in -- weren't some
5 storm sewers sampled?

6 MR. INGRAM: We measured methane
7 as a percent of lower explosive limit.

8 Methane is explosive between about 10
9 and 15 percent concentrations, and we measured
10 in the gas vent and found those numbers to
11 vary, much like the emissions did, but we
12 found close to a hundred percent of the lower
13 explosive limit in a couple of vents at least
14 once.

15 We also found 105 percent of the lower
16 explosive limit in a manhole that had a solid
17 lid on it, and that was outside of the
18 landfill, so the gases had migrated up the
19 storm sewer pipe, was trapped in the manhole
20 beneath the solid lid, and it was 105 percent
21 of the lower explosive limit, and that was the
22 highest point that we found in our limited
23 monitoring.

24 MEMBER FLOM: What health risks

1 were tested and evaluated?

2 MS. REILLY: Well, carcinogenic
3 risks and non-carcinogenic risks, basically.

4 MEMBER FLOM: That's it?

5 MS. REILLY: Yes.

6 MEMBER FLOM: What about other
7 health risks?

8 MS. REILLY: Such as?

9 MEMBER FLOM: Birth defects or
10 asthma or what.

11 MS. REILLY: Mark, do the
12 non-carcinogenic risks take into consideration
13 birth defects and asthma and all that?

14 MR. JOHNSON: Yes.

15 CHAIRMAN O'KEEFE: You are saying
16 non-carcinogenic is -- all risks that aren't
17 carcinogenic are non-carcinogenic, and you are
18 assuming that you have the all-inclusive index
19 there; is that fair to say?

20 MR. JOHNSON: Well, it depends on
21 the chemical, it depends on what's being
22 evaluated for as the toxic end point. I mean,
23 in theory, anything that doesn't cause tumor
24 is a non-carcinogenic effect, but it doesn't

1 imply that we have evaluated for the potential
2 end for the toxicity.

3 MS. SALLINGER: They choose the
4 end point that shows the greatest effect; in
5 other words, their toxicity constant is based
6 on a study where they saw the lowest effect or
7 no effect, and that may be a liver toxicity
8 study, it maybe a birth defect study, it
9 depends upon the specific chemical.

10 So they choose the study where they have
11 seen the lowest adverse effect or a no adverse
12 effect, and that's what's used to calculate
13 the risk.

14 CHAIRMAN O'KEEFE: Other
15 questions?

16 (No response.)

17 CHAIRMAN O'KEEFE: Okay. If not,
18 let us move on to new business.

19 MS. REILLY: About the next RAB
20 meeting, I have a proposal.

21 CHAIRMAN O'KEEFE: Okay. We are
22 going to talk about the next meeting; but
23 someone had another issue to raise.

24 Beryl.

1 MEMBER FLOM: I got this Military
2 & Environment, which I assume is because I am
3 on the RAB.

4 CHAIRMAN O'KEEFE: Yes.

5 Did everyone get that, by the way, a
6 copy of that newsletter? Because I actually
7 put everybody on that mailing list, and it's a
8 non- -- you know, it was a service being
9 offered.

10 MEMBER FLOM: And the lead article
11 in it talks about the fact that they don't
12 have enough money to clean up all the
13 unexploded ordnance, and there is a document
14 that -- or a rule that needs to comment by
15 January 7th, and I was wondering if we -- is
16 that available to us or --

17 MS. REILLY: Sure. You can get
18 it. I think you can get it from the EPA.
19 It's the proposed munitions rules; and,
20 basically, what it is is --

21 MEMBER FLOM: Is this going to
22 affect us?

23 MS. REILLY: Well, by the time it
24 gets passed, I don't think it's going to

1 affect us at all. We will have probably
2 finished all the unexploded ordinance work
3 that we would do before the rule ever gets
4 passed; but your -- I mean, you know, as
5 individuals, you are more than welcome to
6 obtain the document.

7 Do you, by any chance --

8 MR. THOMPSON: Does everybody want
9 this thing to read? There is -- actually,
10 there is a good description of it in the
11 newsletter. If any of you want a copy of it,
12 let us know and I will send it to you.

13 MEMBER FLOM: Okay.

14 MS. REILLY: It's something that
15 you, on your own, the public, is invited to
16 comment on the proposed rule.

17 MEMBER FLOM: Okay.

18 CHAIRMAN O'KEEFE: Any other
19 questions? Barbara.

20 MEMBER KRONISH: Yes, completely
21 separate from this.

22 But are there -- are the proposed
23 arrangements or the tentatively proposed
24 arrangements with the fort, as developing the

1 fort privately, will any of that affect the
2 specific buildings that were set aside for
3 things like the gymnasium, the music arts
4 school, the -- the buildings that we had
5 assumed would be set aside for different
6 things?

7 MS. REILLY: Well, since I don't
8 think a member from what used to be the JPC is
9 here, I'll at least address that to my
10 knowledge.

11 But I understand that those
12 organizations are working with what is now the
13 Highland Park and Highwood, their city
14 planners, and incorporating Lake Forest
15 College and Midwest Young Artists, as well as
16 the homeless providers, into the concept plan
17 there; so, yes.

18 CHAIRMAN O'KEEFE: I mean that
19 transfer, those transfers, except for the
20 homeless providers, which, you know, have more
21 -- are more complicated, but the other
22 transfers are really moving along, from
23 everything I hear, and that the legislation
24 that is -- that was passed in the legislation,

1 the amendment on the Defense Authorization Act
2 that is being proposed, just don't affect
3 those particular transfers at all, it's my
4 understanding.

5 MEMBER FLOM: Has the Stein bill
6 passed?

7 CHAIRMAN O'KEEFE: No, no, not the
8 Stein, that's on the Defense Authorization
9 Act, and that has not been passed yet.

10 MS. REILLY: I thought it was part
11 of the defense appropriation.

12 CHAIRMAN O'KEEFE: No, it's the
13 Defense Authorization Act, and that was voted
14 out of committee today, because we were
15 watching that for another case.

16 MS. REILLY: Wow.

17 CHAIRMAN O'KEEFE: And it's
18 scheduled to be voted on next week. I mean,
19 that's certainly my -- is someone from Stein
20 here?

21 MEMBER FLOM: It's still in the
22 Act?

23 CHAIRMAN O'KEEFE: Yes. That was
24 my understanding. I'm sure it was on the

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1 Authorization Act, because it's on there with
2 about 200 other things like this, actually.

3 Okay. Next meeting.

4 MS. REILLY: Oh. Our next
5 normally-scheduled meeting, I think, is
6 January 16th, I think.

7 But, essentially, the BRAC clean-up team
8 is going to be out of town that week at a
9 symposium, so I am proposing bumping it up a
10 week to January 9th. It's a Tuesday.

11 CHAIRMAN O'KEEFE: How does that
12 look to other people. Is that bad?

13 MEMBER KUHN: Not good for me.

14 MS. REILLY: Let's see. It's no
15 good for you, either.

16 MEMBER FLOM: No.

17 MS. REILLY: Let's look at another
18 date.

19 MEMBER FLOM: I am going to be
20 gone for two months, so --

21 CHAIRMAN O'KEEFE: But would you
22 have been here the next week?

23 MEMBER FLOM: No.

24 CHAIRMAN O'KEEFE: That's when you

1 are leaving.

2 Is that just one person who the 9th
3 doesn't work for, because the alternative
4 would be then --

5 MS. REILLY: The week --

6 CHAIRMAN O'KEEFE: -- the
7 following week, the week of the 23rd.

8 MS. REILLY: Or a Thursday or a
9 Wednesday. I know we are partial to Tuesday.

10 CHAIRMAN O'KEEFE: What is the
11 pleasure?

12 MEMBER JOHNSTON: The 9th is good.

13 MEMBER KRONISH: Fine with me.

14 MS. REILLY: Is that okay?

15 MEMBER CARRIGAN: It seems a
16 little close to this point.

17 What about a week after you come back?

18 CHAIRMAN O'KEEFE: That would be
19 the 23rd.

20 MEMBER ADAMSON: Is that on a
21 Tuesday?

22 MEMBER FLOM: Are you going to be
23 working then?

24 MS. REILLY: Since the Defense

1 Appropriations Bill passed, the military is
2 not in jeopardy of a furlough. Now, EPA might
3 be, but --

4 MR. THOMPSON: But it would be the
5 opposite of what we had before. I was the
6 only one up here.

7 MS. REILLY: I was furloughed and
8 Owen wasn't.

9 But, anyway, the military is no longer
10 in jeopardy of being furloughed since that
11 bill passed.

12 CHAIRMAN O'KEEFE: What is your
13 pleasure?

14 MEMBER JOHNSTON: Will we have
15 information by the 9th? Will we be ready for
16 a new piece of --

17 MS. REILLY: I wanted to present
18 information on the -- you know, the landfill,
19 the videotapes and the photos, and show you
20 what's been done over the past two-and-a-half
21 months.

22 MEMBER FLOM: We could do that
23 tonight.

24 MS. REILLY: We could do that

1 what?

2 MEMBER FLOM: Tonight, right.

3 CHAIRMAN O'KEEFE: Okay. Just to
4 -- actually, to me, it seems soon. It seems
5 like our people, really, over the holidays,
6 you know, maybe we should postpone it; but I
7 am simply --

8 MEMBER JOHNSTON: I am, too; and
9 if the feeling is that we are all interested
10 in --

11 CHAIRMAN O'KEEFE: About how many
12 would take a choice? Majority rules, the 9th
13 versus the 23rd.

14 How many would like to see it on the
15 9th? This is a democracy.

16 MEMBER JOHNSTON: This landfill
17 stuff I would like to see the soonest.

18 (Show of hands.)

19 CHAIRMAN O'KEEFE: Okay. Three or
20 four.

21 MEMBER ADAMSON: Not on the 23rd,
22 is what I am saying, but the 9th or any other
23 time is okay.

24 CHAIRMAN O'KEEFE: Okay. Well,

1 the 23rd, were there people who preferred the
2 23rd?

3 (Show of hands.)

4 CHAIRMAN O'KEEFE: Okay. The 9th
5 is it.

6 MEMBER JOHNSTON: Okay. January
7 9th.

8 CHAIRMAN O'KEEFE: Actually, I
9 will mention that Professor Boerner, one of
10 our members, has asked to give a short
11 presentation to us about some of the work that
12 he's been doing and the imaging work and
13 things that he's familiar with, and if the
14 Board has no objections, I would like to allow
15 him to make that presentation at our next
16 meeting.

17 MEMBER ADAMSON: How does that
18 apply to this?

19 CHAIRMAN O'KEEFE: I think that he
20 feels that it does.

21 MEMBER KRONISH: Will that be a
22 timed session?

23 CHAIRMAN O'KEEFE: I think that,
24 clearly, we have to slot it in, and it would

1 mean that Colleen would not present something
2 else. I mean, you know, you have a limited
3 time. We are going to meet until 10:00 or try
4 to meet until 10:00.

5 MS. REILLY: Or I have a
6 suggestion, perhaps we could do it this way,
7 that we could have our normal RAB meeting, but
8 shortened, and then allow Wolfgang to do the
9 presentation sort of at quarter to 9:00 or
10 9:00, and then if things were going on a
11 little too long, then people could leave, but
12 the RAB meeting would be finished.

13 CHAIRMAN O'KEEFE: Is that what
14 you would like us to have as the last item on
15 at agenda?

16 (The voices were thereupon
17 heard.)

18 CHAIRMAN O'KEEFE: Sounds good.
19 We will plan that way.

20 Thank you very much. Have a nice
21 holiday.

22 MS. REILLY: Yes, have a nice
23 holiday.

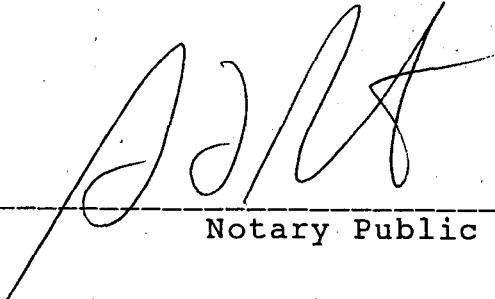
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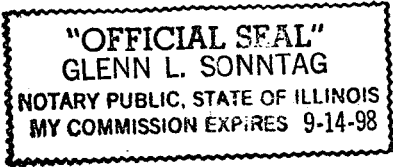
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